IMPACT OF B.ED. PROGRAMME ON PUPIL TEACHERS, TEACHER EDUCATORS, PRINCIPALS AND INSTITUTIONS: AN EVALUATIVE STUDY

A Thesis

Submitted in partial fulfillment of the requirements for the

award of the degree of

DOCTOR OF PHILOSOPHY

in

EDUCATION

By

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DECLARATION

I do hereby declare that the thesis entitled *"IMPACT OF B. ED. PROGRAMME ON PUPIL TEACHERS, TEACHER EDUCATORS, PRINCIPALS AND INSTITUTIONS: AN EVALUATIVE STUDY"* submitted in the fulfillment of the requirement for the award of the Doctor of Philosophy in Education is entirely my original work and all ideas and references have been duly acknowledged. It does not contain any work that has been submitted for the award of the degree or diploma to any other university.

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CERTIFICATE

This is to certify that Mr. Harish Mittu has completed his Ph. D. Thesis entitled *"IMPACT OF B. ED. PROGRAMME ON PUPIL TEACHERS, TEACHER EDUCATORS, PRINCIPALS AND INSTITUTIONS: AN EVALUATIVE STUDY"* under my guidance and supervision. To the best of my knowledge, the present work is the result of his original investigation and study. No part of the thesis has been submitted for any other degree or diploma to any other university. This thesis is fit for submission for the fulfillment of the requirements for the award of Doctor of Philosophy in Education degree.

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ABSTRACT

Teacher education is the basis of any education system. Although in ancient and medieval times, there were no formal arrangements of teacher education; yet India was never devoid of the inspiring presence of high-quality teachers. Education was part of ancient Indian religious culture. The high standards of common Indian people's moral uprightness show that the teachers were highly successful in creating an honest and vibrating society. However, the need for such a kind of teachers' training was never felt under British ruled India. The teachers or Gurus in ancient times had their ways of expanding their knowledge and there appears to be a sublime continuity and similarity in these ways during medieval periods also. For instance, the monitorial system, conferences, discussions, debates, and seminars, which existed in ancient India, continued in medieval India too. However, under the political control of Europeans in India, things took a different shape. Wood's Despatch (1854) for the first time introduced pupil teacher education system leading to the certification and employment of teachers. India's exposure to the Western system of education and thought, along with its hunger to gain knowledge led to an altogether new and scientific approach to education. In this new age and changed circumstances, a very systematic and objective system of teacher education began which was neither superior nor inferior to the system of the past whose achievements were equally praise-worthy for the upcoming generations. After Independence, the needs and requirements of education took an altogether different shape i.e. it grew to industry and has been commercialized in the present times.

In India, an undergraduate professional degree programme called Bachelors of Education (B.Ed.) prepares student teachers into competent and professional teachers. Till 2015, B.Ed. programme was of one-year duration. In one year B.Ed. programme, the theory was given more weightage than the practical components. The teaching practice was the weakest part of the programme. The pupil teachers were forced to undertake teaching in the real classroom without much understanding of the school system. Supervision of teaching practice was also a challenge because of lack of time with teacher educators and indifferent attitude of school teachers towards practicing

teachers. All such issues were raised by educationists at various levels as one-year B.Ed. programme was not able to produce competent and professional teachers as per the need of the time. NCTE, in 2015, changed the duration of B.Ed. programme from one to two years B.Ed. programme with the focus to develop more humane and competent professional teachers. The focus was to overcome the deficiencies or limitations of one year programme. So, the researcher feels the dire need to evaluate the two years programme to assess its effectiveness. The research intent was to see whether two years B.Ed. programme is developing professional and humane teachers as per the vision of NCTE. The studies conducted earlier were mostly focused on one year programme and pupil teachers only. No previous comprehensive study on evaluation of the impact of two years B.Ed. programme was available at the time when the present research was undertaken. In such a scenario, the researcher decided to consider all the potential stakeholders like pupil teachers, teacher educators, and principals of Teacher Education Institutions. In addition to this, the change of duration of the course also has an impact on admissions, faculty intake, resource creation, etc. So, the researcher decided to conduct a comprehensive and holistic study to evaluate the impact of two years B.Ed. programme. Although, NEP 2020 emphasized the 4 years Integrated Teacher preparation programme, yet it maintained that 2-years B.Ed. programme will continue till 2030 and after that only institution offering, 4-years programme will be continuing with 2-years programme as well. In such conditions, it's imperative to evaluate the impact of 2-year B.Ed. programme for its better implementation. As per policy, in near future, the focus will shift to move teacher education programmes in multidisciplinary colleges and universities. Therefore, research is required to strengthen the 2-year programme by evaluating it through the eyes of different potential stakeholders from the practical field like pupil teachers, teacher educators, and principals of Teacher Education Institutions.

The main objectives of the study were to evaluate the impact of B.Ed. programme on pupil teachers, teacher educators, and principals of colleges of education with respect to state, university, and type of institution/colleges of education keeping in view the Context, Input, Process, and Product factors of the modified CIPP model; and to study the impact of B.Ed. programme on the admission of students, utilization of

institutional resources, nature of the post, workload, experience qualification of teacher educators, financial management, and accreditation of the institutions/colleges of education.

This evaluation study involved a mixed-method research design as it involved the collection and analysis of both quantitative and qualitative data. The quantitative data in the present research were collected through scales, and qualitative data were collected through an interview schedule. The population of the study was comprised of pupil teachers, teacher educators, and principals of colleges of education from universities of Punjab, Haryana, and Himachal Pradesh. The sample consisted of 1580 respondents/stakeholders. Out of 1580 respondents/stakeholders, 1436 were pupil teachers, 120 were teacher educators, and 24 were principals of colleges of education. The data was selected from 10 universities of the states of Punjab, Himachal Pradesh, and Haryana through the stratified random sampling technique.

The reviewed literature suggested that there was no combined tool or independent tools available to evaluate the impact of two years B.Ed. programme on stakeholders (Pupil Teachers, Teacher Educators, Principals of Colleges of Education) and Institutes/Colleges of Education in the Indian context. But, the researcher has found some models like Tyler's Evaluation Model, Kirkpatrick's Evaluation Model, Stufflebeam's CIPP Evaluation Model, Matfessel and Michael's Evaluation Model, Hammond's Evaluation Model, Stake's Responsive Model, Scriven's Goal Free Evaluation Model, and Parlett and Hamilton Model used to evaluate the effectiveness of any programme. In the past, the researchers had developed various evaluation tools by using Stufflebeam's CIPP model. In the present study, the researcher has modified Stufflebeam's CIPP model to develop relevant evaluation tools. The researcher has developed and standardized the Evaluation Scale for Impact of B.Ed. programme on Pupil Teachers (ESIBP-PTs); Evaluation Scale for Impact of B.Ed. programme on Teacher Educators (ESIBP-TEs); Evaluation Scale for Impact of B.Ed. programme on Principals of Colleges of Education (ESIBP-PCE); and Institutional Data Report Form (IDRF) to study the impact of B.Ed. programme on the admission of students, utilization of institutional resources; nature of the post, workload, experience & qualification of teacher educators; financial management and accreditation of the

institutions. In addition to these, scales for teacher educators and principals of colleges of education were also developed to collect qualitative data. So, self-developed tools have been used to collect the data.

For collecting the quantitative data, the purpose of the study was explained, and instructions for filling the evaluation scale of impact of B.Ed. programme (ESIBP) was given to stakeholders before collecting the data personally or online from pupil teachers (PTs); teacher educators (TEs); and principals of colleges of education. The qualitative data was collected by conducting informal interviews of 120 TEs and 24 principals of colleges of education. The researcher has faced some challenges while collecting data. As per the nature of the study, data were to be collected towards the end of the 2-year B.Ed. programme. The researcher found challenges in connecting with the required sample of pupil teachers (PTs), teacher educators (TEs), and principals of colleges of education (PCE) as they were engaged in final exam preparations. Later technological assistance was taken to collect the required data from the staff of some of the institutions. The researcher had to visit the same colleges repeatedly to obtained the filled data form from all the stakeholders. The area of study was wide and personal connection with the sample was not possible. Therefore, some of the filled data forms were found to be incomplete that led to the recollection of data from some more institutions. Moreover, some of the principals of colleges of education were reluctant to provide the institutional data. So, such data was taken from NAAC and official websites.

Statistical techniques like frequencies and frequency distributions, mean, standard deviation, synthetic indexes, percentages, t-test, linear regression, and qualitative analysis of opinions of teacher educators and principals of colleges of education were used to study the impact of B.Ed. programme on the stakeholders.

To achieve the second objective i.e., to study the impact of B.Ed. programme on the stakeholders with respect to its (i) state, (ii) university, and (iii) type of Institution; ANOVA, t-test, and χ^2 test (quantitative analysis) were applied on raw scores. To study the impact of B. Ed. programme on (i) admission of students, (ii) utilization of institutional resources; and (iii) nature of post, (iv) workload, (v) experience, and (vi) qualification of teacher educators; and (vii) financial management and (viii)

accreditation of the institutions; Analysis of institutional data report (quantitative analysis) and analysis of interviews (qualitative analysis) were conducted.

The findings of the study revealed a positive impact of B.Ed. programme on the stakeholders. The synthetic and inferential analysis revealed that context and process have the highest and lowest impact respectively on both the pupil teachers and teacher educators. But the regression/statistical inferences show that pupil teachers consider the process as the most important factor in determining the impact of B.Ed. programme whereas teacher educators consider both product and process as the most important factor in determining the impact of B.Ed. programme. The maximum impact of B.Ed. programme on the pupil teachers is found in the state of Punjab whereas least is in the state of Himachal Pradesh. In the state of Punjab, more emphasis was given on training, employment enhancement, professionalism, and academics. The statistical inferences also showed that in the state of Himachal Pradesh there was less emphasis on input as compared to both the states of Punjab and Haryana. The study further revealed that the pupil teachers of the grant-in-aid universities and government colleges perceived less impact when compared with the pupil teachers of private universities and institutions. The qualitative analysis showed that the private universities and institutions have more pressure of accreditations, have more flexibility and inclination towards innovative procedures and courses. Moreover, the teacher educators in these institutions were made responsible and accountable for their role which affected their job positions and increments. So, the taken-for-granted attitude of government universities and colleges; and lack of innovations were among major causes of ineffective implementation of programme. It was also found that the increased duration of B.Ed. programme resulted in a decrease in admissions in grant-in-aid and self-financed colleges. The number of units in B.Ed. colleges vary as the number of seats varies from 50-300. Moreover, this has promoted the non–attending culture in some of the institutions of both the states of Haryana and Punjab to some extent. The study revealed that there is 50% regular staff and around 25% of the posts are lying vacant. This has also led to an increase in faculty workload. Moreover, the study concluded that almost 39% of the recruited faculty was with inadequate qualifications.

The process factor of B.Ed. programme was the strongest contributor to the impact of B.Ed. programme on principals of colleges of education. 92% of the principals of colleges of education were in favor of two years B.Ed. programme. The two years B.Ed. programme has increased their administrative responsibilities, new responsibilities relating to the admission of students, relational and supervisory responsibilities, and they faced challenges regarding the availability of the required number of teacher educators.

The finding of the study, recommends to orient and make aware the pupil teachers and teacher educators on dimensions like pedagogical, professional, evaluation, and training procedures through orientation programmes, workshops, personal mentoring and seminars, etc. The study also recommends that the statutory bodies should keep a rigorous check on the government universities and colleges. Further, the study also recommends that NCTE should give more flexibility for innovations in 2-year B.Ed. programme, and to fill the vacant seats.

The findings of the study suggest to conduct further studies on the opinions of the pupil teachers towards the two-year B.Ed. progamme with the help of open-ended questions/interviews at the institution, state, and national level or to explore the impact of the two-year B.Ed. programme on different aspects of the personality of pupil teachers. Similar researches can be conducted to evaluate the effectiveness of integrated teacher education programmes.

The study found two–year B.Ed. programme is effective and should be continued till 2030 as also recommended by NCTE, New Delhi. But after 2030 only institutions meeting the quality standard should be allowed to continue with the programme. The study supports the same recommendations for enhancing the effectiveness of integrated teacher education programmes.

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Sr. No.	Abbreviations	Full Form
1.	B.Ed.	Bachelor of Education
2.	PTs	Pupil Teachers
3.	TEs	Teacher Educators
4.	PCE	Principals of Colleges of Education
5.	CE	Institutions/Colleges of Education
6.	PB	Punjab
7.	HR	Haryana
8.	HP	Himachal Pradesh
9.	GCE	Government Colleges of Education
10.	GIACE	Grant-In-Aided Colleges of Education
11.	SFCE	Self-Financed Colleges of Education
12.	SGU	State Government University/Universities
13.	PU	Private University/Universities
14.	B.P.Ed.	Bachelor of Physical Education
15.	M.Ed.	Master of Education
16.	NCTE	National Council of Teacher Education
17.	ICT	Information and Communication Technology
18.	TE	Teacher education
19.	B.A.	Bachelor of Arts
20.	B.Sc.	Bachelor of Science
21.	M.A.	Master of Arts
22.	M.Sc.	Master of Science
23.	Ph.D.	Doctor of Philosophy
24.	IATE	Indian Association of Teacher Educators
25.	NCERT	National Council of Educational Research and Training
26.	SIEs	State Institutes of Education
27.	NPE	The National Policy of Education
28.	DIETs	District Institutes of Education and Training/District Institute of Elementary Teachers
29.	CTEs	Colleges of Teacher Education
30.	IASEs	Institutes of Advanced Studies in Education
31.	NCF	National Curriculum Framework
32.	NCFTE	National Curriculum Framework for Teacher Education
33.	CPD	Continuous Professional Development
34.	PD	Professional Development
35.	TEI/TEIs	Teacher Education Institutions
36.	CTET	Central Teacher Eligibility Test
37.	STET	State Teacher Eligibility Test
38.	NET	National Eligibility Test
39.	SLET	State Level Eligibility Test
40.	D.El.Ed.	Diploma in Elementary Education

Sr. No.	Abbreviations	Full Form
41.	NAAC	The National Assessment And Accreditation Council
42.	RCs	Regional Committees
43.	TERCs	Teacher Education Resources Centres
44.	TRCN	Teachers Registration Council of Nigeria
45.	QTS	Qualified Teacher Status
46.	PGD	Postgraduate Teaching Course
47.	DSD	Directorate of Staff Development
48.	EPC	Enhancing Professional Capacities
49.	CIPP	Context, Input, Process, and Product
50.	GCET	Government College for Elementary Teachers
51.	UNESCO	United Nations Educational, Scientific and Cultural Organization
52.	UTECH	University of Technology
53.	EFL	English as a Foreign Language
54.	B S Education	Bachelor of Science
55.	IEPs	Individualized Education Plans/Programs
56.	SC	Scheduled Caste
57.	ST	Scheduled Tribes
58.	PG	Post Graduate
59.	SUPW	Socially Useful Productive Work
60.	CIE	Central Institute of Education
61.	GAPs	Grade point averages
62.	PF	Personality Factor
63.	RITE	Regional Institutes of Teacher Education
64.	IBPS	Impact of B. Ed. Programme Scale
65.	IDR	Institutional Data Report
66.	SD	Strongly Disagree
67.	D	Disagree
68.	A	Agree
69.	SA	Strongly Agree
70.	MV	Mission & Vision
71.	PO	Programme Objectives
72.	AI	Academic Inputs
73.	RI	Resource Inputs
74.	TI	Training Inputs
75.	PI	Professional Inputs
76.	EI	Evaluation Input
77.	AEI	Academic & Evaluation Input
78.	CTP	Curriculum Transaction Process
79.	PP	Professional Process
80.	TP	Training Process
81.	AP	Academic Process
82.	EP	Evaluation Process

Sr. No.	Abbreviations	Full Form
83.	**PDP**	Pedagogical Process
84.	**AAP**	Administrative & Academic Process
85.	**TEP**	Training & Evaluation Process
86.	**TP**	Training Process
87.	**PCPr**	Professional Competencies Product
88.	**ICPr**	Inclusive Competencies Product
89.	**TECPr**	Teaching & Evaluation Competencies Product
90.	**ANARPr**	Academic & Non-Academic Responsibilities Product
91.	**RCPr**	Resource Consultation Product
92.	**PTPr**	Professional Training Product
93.	**ERPr**	Evaluation Responsibilities Product
94.	**SRPr**	Social Responsibilities Product
95.	**ADPr**	Administrative Product
96.	**MPr**	Managerial Product
97.	**TPr**	Training Product
98.	**SR**	Supervisory Responsibilities
99.	**PC**	Professional Competencies
100.	**SC**	Social Competencies
101.	**AR**	Administrative Responsibilities
102.	**IBM**	International Business Machines
103.	**SPSS**	Statistical Package for Social Science
104.	**AMOS**	Analysis of a Moment Structures/Analysis of Covariance or Causal Modeling Software
105.	**E**	Number of Experts Rating the Item
106.	**CVR**	Content Validity Ratio
107.	**n_e**	Number of experts with a rating of 3 or 4
108.	**N**	Number/Total Number of Experts
109.	**EFA**	Exploratory Factor Analysis
110.	**KMO**	Kasier Meyer – Olkin
111.	**MSA**	Measure of Sample Adequacy
112.	**CFA**	Confirmatory Factor Analysis
113.	**GFI**	Goodness of fit index
114.	**AGFI**	Adjusted Goodness of Fit Index
115.	**TLI**	Tucker-Lewis Fit Index
116.	**CFI**	Comparative Fit Index
117.	**RMSEA**	Root Mean Square Error of Approximation
118.	**SRMR**	Standardized Root Mean Square Residual
119.	**CMIN**	Minimum Discrepancy Function
120.	**CMIN/DF**	Minimum Discrepancy Function divided by Degrees of Freedom
121.	**DF or df**	Degree of Freedom
122.	**CR**	Convergent Validity
123.	**AVE**	Average Variance Extracted

Sr. No.	Abbreviations	Full Form
124.	DV	Discriminant Validity
125.	α	Cronbach's alpha/significance level
126.	SBP	Spearman Brown Prophecy formula
127.	E	Essential
128.	U	Useful
129.	N	Not Necessary
130.	M	Mean
131.	χ^2	Chi-square
132.	X	Raw Score
133.	Z	Standardized Score
134.	SD or σ	Standard Deviation
135.	t-test	Student test or test of significance difference
136.	t-value	Test-statistic
137.	SE_D	Standard error of Difference
138.	ANOVA	Analysis of Variance
139.	NGOs	Non-Government Organizations
140.	R	Degree of Prediction
141.	R^2	Degree of Explaining the Variance
142.	B	Unstandardized Coefficients/Beta
143.	β	Determination Coefficient/ Standardized Regression Coefficients
144.	F-value/ratio	Ratio of the between group variance (MSB) to the within group variance
145.	%	Percentage
146.	CAs	Continuous Assessments
147.	CV/CVs	Curricular Vitae
148.	NEP	National Education Policy
149.	LCD	Liquid Crystal Display
150.	OHP	Over Head Projector
151.	UGC	University Grant Commission
152.	TCE	Type of College of Education
153.	cf	Cited from
154.	HODs	Head of Departments
155.	TOI	Type of Institution/Institutions
156	SFISGU	Self-financed Institutions (Colleges of Education) affiliated to State Government Universities
157	SFIPU	Self-financed Institutions (Colleges of Education) affiliated to Private Universities

CHAPTER I

INTRODUCTION

The oldest and most respected profession in the world is teaching. The need for reflective teachers during various civilizations, cultures, and societies is considered to be very crucial at all times. In early times, teachers were often scholars without any formal training in teaching to teach a subject of their expertise. In India, the land of great teachers and scholars, although there were no formal arrangements of teacher education in ancient and medieval times, yet India was never devoid of the inspiring presence of high quality and reflective teachers. Education was, then, a part of Indian culture. With the emergence of pedagogy (i.e. the art and science of teaching), the training for teachers was considered most important and essential. The teacher education programmes were introduced around the world. The teacher education programme is related to the development of teacher competence and proficiency. Teacher competence and proficiency would empower and enable the teacher to fulfill the necessities of the profession. This also prepares the teacher to face the challenges of the teaching profession. As per the Goods Dictionary of Education, Education includes all the formal and non-formal activities and experiences that help to qualify a person to assume responsibilities of a member of the educational profession or to discharge his responsibilities more effectively.

In the present times, scientific advancements have impacted all aspects of our life i.e. agriculture, industrialization, urbanization, information and communication technology, electronics, automobiles, medicine, and digital technology, etc. As a result, our society and lifestyle also get transformed from capitalized to industrial; and industrial to the knowledge society. This standard shift has also affected teacher education to a great extent and further teacher education is facing unprecedented challenges. The teacher preparation undergoes several changes and improvements as per the requirement of prevailing time and society. It was found that teacher education is not preparing the prospective teachers as per the needs of the school system. Our prospective teachers are not holistic and competent enough to teach 21st century learners. All such issues were raised by educationists at various levels as one-year

B.Ed. programme was not able to produce competent and professional teachers as per the need of the time. As a general consensus, effective teacher preparation programmes are required for creating efficient teachers. The teacher education institutions, around the world, provide required academic, administrative, and infrastructural facilities to create an appropriate environment for developing effective teachers through initial teacher training programmes. So, teacher education is considered as a basis of any education system. The effectiveness of teacher education guarantees the quality of education because the teacher is one of the basic and essential elements in the whole process of education. Keeping such accord, National Council for Teacher Education (2015) changed the one-year B.Ed. programme into two years B.Ed. programme with the focus to develop more humane and competent professionals. The focus was to overcome the deficiencies or limitations of one year programme like lack of time, less duration of teaching practice, less emphasis on practical components, less engagement with school and society, etc. Although, National Education Policy, 2020 emphasized the 4 years Integrated Teacher preparation programme, yet it maintained that 2-years B.Ed. programme will continue till 2030 and after that only institution offering, 4-years programme will be continuing with 2-years programme as well. In such conditions, it's imperative to evaluate the impact of a 2-years B.Ed. programme for its better implementation. As per policy, in the near future focus shifts to move teacher education programmes in multidisciplinary colleges and universities. Therefore, researches are required to strengthen the 2-years programme by evaluating it through the eyes of different potential stakeholders from practical field like pupil teachers, teacher educators, and TEI principals.

1.1 THEORETICAL ORIENTATION OF THE PROBLEM

Over the years, different training institutions have been established in India, which impart training to teachers at elementary and secondary levels. Of late, many new self-financed institutions of education have mushroomed. There are institutions that are either governed purely by the government or aided by the government. The third type of institution is privately managed B.Ed. colleges that do not get grant-in-aid from the government and are purely self-financed type. Although, NCTE has come into the picture to exercise its regulatory power/control over the quality of education

being provided in these training institutions yet the quality of training is doubted and questioned by the general public at various forums. The researchers, at various levels, have found a mismatch between the perspective and philosophy of schools and Teacher Education Institutions (TEIs) about the role of the teacher as taught in TEIs and as required in schools. Is there a problem with the training procedures being adopted in TEIs or different types of institutions themseleves the greatest hindrance in quality training? Answers to such potent questions need to be explored. Researcher in the past has worked on these issues but in a fragmented manner by covering one or the other issues and not in a holistic manner. A holistic exploration covering all aspects of the programme is required for overall and quality evaluation. So, the purpose of this research work is to evaluate the impact of B.Ed. programme (Two-Years) on pupil teachers, teacher educators, and principals of colleges of education, and institutions/colleges of education. The main objective of the evaluation of a programme is the three-sixty-degree evaluation of the programme i.e., by evaluating the significant areas of a programme on which the programme stands. This evaluation helps in identifying the strengths and weaknesses of a programme after its implementation and provides scope for its improvement, which ultimately helps the stakeholders in the correct implementation of programme and getting a quality product as an outcome.

So, to understand the research process and later its finding and implications, it is pertinent to understand the theoretical framework within which the entire research was carried out. The theoretical framework includes the brief conceptual history and present status of teacher education, two Years B.Ed. programme, and model of evaluation.

1.1.1 Teacher Education

Teacher education or teacher training refers to the policies, procedures, and procedures designed to equip prospective teachers with the knowledge, attitudes, behaviors, and skills they require to perform their tasks effectively in the classroom, school, and wider community. In many countries, there is a political control on the process of teacher education due to the reason that education systems consume significant financial resources and the value attached by societies and cultures to the

preparation of young people for life but the degree of control varies. In many systems, the state may specify the skills that all teachers must possess, or it may specify the content of teacher education courses.

The development of teacher education in India crossed different stages with different periods and reached its present form (Singh, 1990; Mohanty, 2003; and Sharma, 2004). During the Vedic or Upanishadic Period, an individual was selected, educated, trained effectively, and eligible as a teacher, titled as Brahmans, only after performing satisfactorily all the essential duties. The monitorial system prevailed during the Buddhist period. Preceptor (Upajjhaya) is the term used for teachers. The responsibility of the overall development of the students (Saddhiviharika) is associated with the teachers. Meritorious students were trained to become efficient teachers. The Moulvis and scholarly persons performed the duty of teachers in the Maktabs and Madrassahs during the medieval period. The monitorial system was used for preparing future teachers. The new teachers followed the practices of old teachers as a process of teacher preparation. Teacher education was not given high priority during the medieval period.

Wood's Despatch (1854) established training schools across India by introducing a pupil-teacher system as implemented in England and introduced sufficient incentives for the pupil teachers. The certification and employment were given on successful completion of the training. Lord Stanley's Despatch (1859) suggested the training of the teachers with more rigorous efforts. The Indian Education Commission (The Hunter Commission, 1882) suggested a shorter course of training for graduates and a candidate must qualify the principles and practice of teaching exam for getting a regular job as a teacher in any secondary school as an essential requirement. Therefore, till the end of the 19th century, some important things that had been done in teacher training were - the replacement of general education by pedagogical courses; certification, and emphasis on practical aspects in teacher training.

The Government of India Resolution on Education Policy (1904) recommended the opening of more training schools and training in the art of teaching for teachers. The general principles suggested by the resolution for the establishment of teacher-training institutions for secondary education were - to enlist more men of ability and experience in the work of higher training; to equip the training colleges well; the

duration of the training programmes should be two years but one year for graduates; the course would comprise knowledge of the principles (including the art of teaching and technical skill in the practice); the course would end in a university degree or diploma; a close link between theory and practice; the attachment of practicing schools to each college; provision of in-service education, and courses of training for teachers of rural schools. The Government of India Resolution on Education Policy (1913) suggested a year's training for teachers; periodical repetition and improvement courses for teachers; mandatory certification in teaching for teaches; and exchange of ideas amongst the training college staff members. The Saddler Commission (Calcutta University Commission, 1917) suggested the transformation of a trainee into a competent teacher and good administrator, and education as an optional subject at the Bachelor of Arts and a postgraduate degree in education level. It had a useful effect on the teacher training programme. The Hartog Committee (1929) suggested the increase in the duration of training; broad curriculum; the recruitment of qualified staff; the induction of individual, who was close to rural society, as teachers for rural areas; the language journals for language teachers, the refresher courses and conferences for the teacher; and the organization of teacher associations' meetings. These activities can do much to brighten the lives of the teachers and improve their work. The Abbott-Wood Report (1937) suggested the duration of training should be 3 years for proper professional training of pupil along with general education; a refresher course for the teacher, and the needful activities for achieving qualitative improvement. The Sargent Report (1944) suggested the induction of suitable boys and girls into the teaching profession after high school, planning of refresher courses, provision of practical training as well as research facilities, a two-year course for pre-primary as well as junior basic schools, a three-year course for the senior basic schools, two-year training for the non-graduate teachers in high schools, and one-year training for the graduates.

At this stage, a very systematic and objective system of teacher education began which was neither superior nor inferior to the system of the past whose achievements were equally praise-worthy for the upcoming generations. After Independences, the needs and requirements of the education industry took a different shape. The University Education Commission (1948-49) suggested that there should be a link

between theory and practice for the improvement of teacher training. Indian Association of Teacher Educators (IATE, 1950 and 1951) revised the syllabi, added new areas of specialization, improved practical work during a six-week summer course in education, and organized various workshops, seminars, and conferences with a focus on the improvement of teacher education. The Secondary Education Commission (1952-53) emphasized the teacher's personal qualities, educational qualifications, professional training, importance, and place in the school as well as the community for the educational reconstruction. Therefore, the Commission suggested Primary and Secondary Teacher Training Institutions and Training Colleges, two years of training for school pass-outs, one academic year for graduates extended to two academic years, and training in co-curricular activities, refresher courses, and research work for the M.Ed. degree. The National Council of Educational Research and Training (NCERT, 1961) establish the four Regional Colleges/Institutes of Education and introduced the Four Years Integrated Secondary Teacher education Programme after the 10+2 stage. The Kothari Commission (1964-66) suggested an essential requirement of a sound professional teacher education programme for the qualitative improvement of education and proper coordination of teachers' education colleges with the universities and schools.

National Policy Statement on Education (1968) emphasized the teachers' emoluments and other service conditions (like adequate qualifications and satisfactory responsibilities). The Planning Commission in the Fourth Five Year Plan (1969-74) emphasized the quality improvement of Teacher Education; training of more women teachers, science and mathematics teachers for the middle classes and teachers from tribal communities; organizing in-services training and suggested correspondence courses for the training of in-service teachers; greater co-ordination between the NCERT and the State Institutes of Education (SIEs) for qualitative improvement in school education; and training Programmes for teacher educators. First Asian Conference on Teacher Education (1971) suggested modification of school education and teacher education programs to meet the challenges of the present and future education system. National Council of Teacher Education (NCTE, 1973), a statutory and national advisory body to regulate and work for teacher education, drafted a new task-oriented curriculum for preparing' teachers for the new 10+2 pattern, defined the

objectives of teacher education; the relationship with the community; worked out the socially useful productive work (SUPW), defined the role as well as functions of the teacher in the emerging Indian Society, emphasized on the teachers' role as a leader (inside as well as outside the classroom), and an agent for social change (to kick off action for the transformation of society) to achieve the goal of national development. National Commission on Teachers–I (1983-85) suggested a four year or preferably a five-year training course after senior secondary leading to graduation and training; a two-year training course after class 10 + 2 for elementary teachers; and a four year integrated course for a degree in education (including general education and professional preparation).

The National Policy of Education (NPE, 1986) upgraded some training schools and training colleges to District Institutes of Education and Training (DIETs), Colleges of Teacher Education (CTEs), and Institutes of Advanced Studies in Education (IASEs). The Acharya Ramamurti Committee (1990) suggested an internship model for teacher training based on the experience of the realistic situation through actual field experience and the development of teaching skills by practice over some time. Yashpal Committee (1993) suggested that B.Ed. programme should offer the specialization in the nursery or elementary or secondary education having duration either be four years after higher secondary or one year after graduation. National Curriculum Framework for Teacher Education (NCFTE, 2000) emphasized the need for continuing education for in-service teachers because initial education and training of in-service teachers may not remain relevant and effective within the current scenario and recommended a cascade model of training. National Curriculum Framework for Teacher Education (NCFTE, 2005) advocated the Continuous Professional Development (CPD) for bridging the gap between pre-service and in-service education of teachers through well-designed pre-service programmes and on-site support to teachers respectively. NCFTE also emphasized the significant collaboration between school and Teacher Education Institutes (TEI). Based on the recommendation of NCFTE (2005), National Curriculum Framework for Teacher Education (NCFTE, 2009) drafted an altered framework on Teacher Education; worked on the approach and methodology of in-service teacher training programmes; designed model syllabi for various teacher education courses with the support of

NCTE; and conducted National or State Teacher Eligibility Test (CTET/STET) for school teachers and National or State Level Eligibility Test (NET/SLET) for teacher educators to enhance the quality of school and teacher education.

The important highlights of NCTE Regulations (2014) are - a wide basket with 15 programmes; four-year B.A/B.Sc. B.Ed., Three-year B.Ed. (Part-time) and Three-year B.Ed.-M.Ed. programme; duration of B.P.Ed., B.Ed. and M.Ed. programmes increased from one year to two years (For making more professional and at par with best international standards); inclusion of Gender and Inclusive Education, Yoga Education and ICT in each teacher education programme; promoted more integrated teacher education programmes; M.Ed. degree (specialization in Elementary or Secondary/Senior Secondary Education); D.El.Ed (ODL), B.Ed. (ODL), B.Ed. (Part-Time) for In-service teachers to upgrade their qualification in teacher education; and essential accreditation of each teacher education institution in every 5 years from NAAC. The NCTE Review Committee (NCTERC, 2015-16) has recommended an overhaul of NCTE; the setting up of at least two teacher education universities in each state; the number of programmes in teacher education universities should be three; National-level Entrance Examination for Teacher Education (NEETE) for admission to teacher education programmes to be conducted by NCTE; eligibility for admission should be more than 50% marks; regional committees (RCs) should start working as Teacher Education Resources Centres (TERCs) (cf. Times of India, April 2016). Lastly, NEP (2020), although emphasized on the 4 years Integrated Teacher preparation programme, yet maintained that 2-years B.Ed. programme will continue till 2030 and after that only institutions offering 4-years programme will be continuing with 2-years programme as well. Based on the above-mentioned commissions and committees, it has been concluded that the Government of India and NCTE have made various efforts in the past few years to steadily develop an education system at par with the best international standards. The quality and success of education and educational programme largely depend upon the dedication, competencies, skills, and quality of a teacher. Both the teacher education institutions and teacher educators are responsible for the development of competencies and skills among future teachers and the quality of the future teacher. In the 21st century globalized world, there is a need to design teacher education programmes that would

help prospective teachers to know and deeply understand the things related to teaching and learning in their social and cultural contexts. Furthermore, prospective teachers must be able to enact these understandings in complex classroom situations and serving diverse students (Fullan, 1993). Throughout the world, reform and innovation initiatives by nations have triggered much discussion about the structures of teacher education and training programmes (Hébert, 2001).

1.1.2 Two Years B.Ed. Programme

In India, a Bachelor of Education (B.Ed.) is meant for preparing teachers for secondary schools. It is a four-year training course open to intermediates and a two-year training course open to graduates, earlier, till 2014, it was a training course in regular mode after graduation only and a two-year training course open to in-service teachers with a graduate degree and a minimum of two-year teaching experience in a recognized school. The emphasis Bachelor of Education programme is on the principles and methodology of teaching. The B.Ed. degree is mandatory for teaching at the secondary (classes 6 to 10) and higher secondary (10+2 or classes 11 and 12). While students from the Arts stream are trained to teach subjects like History, Civics, Geography, and languages, the students from the Science stream are trained to teach Mathematics, Physics, Chemistry, and Biology. The duration of the course will be four years from session 2020-21 as per NCTE Regulations, 2019. The two-year B.Ed. programme provides interdisciplinary perspectives in education. It develops the habit of reflective teaching among the student teachers. Teacher trainees come to understand the life skills, reading and reflecting on texts, use of drama and art in education through this programme. The full curriculum is application-based. There is a place for value and peace education in the curriculum.

The up-gradation of Bachelors of Education degree to two years from the session 2015-2016 has led to a great debate among teachers across the country. Most of the concerned authorities are in favor of this decision. Though, the aspiring teachers are still struggling to accept this. Many factors prove that the two-year B.Ed. programme is more effective than that of one year. To begin with, the curriculum has been expanded to include some more topics, which was not possible to do with the one-year program owning to the shortage of time. The second and most beneficial aspect

of this reform is the extended training period. In the previous B.Ed. programme, only 40 days (or six weeks and four days) were assigned for the training of the students, but the new B.Ed. programme will facilitate the students with an internship of approximately six months. This will imbibe the desired skill-set among the would-be teachers, which in turn would further raise the quality of teachers. Another advantage of the extended course time is that there will be less pressure on the government to provide job opportunities to lakhs of candidates every year. It will bridge the skewing gap between the demand and supply of the teachers. It intends to bring integrated development of the trainee-teachers touching cognitive and non-cognitive aspects of their behavior. As the role of the teacher is so significant in the teaching and learning process, therefore, there is a need for doing rigorous planning of every aspect of B.Ed. programme in terms of courses; content and methodologies to be taught; duration of school-based training; and overall duration of programme etc. (cf. Rajput, 2016). Recently the curriculum of teacher education throughout the country has been considerably altered. It is as per the contemporary global changes, socioeconomic, cultural, and political changes along with the advancement of technology. A uniform curriculum for B.Ed. programme (enrichment of the B.Ed. curriculum by reducing theoretical frameworks; including internship program and field engagement practicum activities by emphasizing more on pedagogical aspects of education and increasing the duration of the course from one year to two years) has been implemented throughout the country as per NCTE, regulations, 2014 framed based on Justice Verma commission's report, NCF-2005 and NCFTE-2009 (cf. Mishra and Koner, 2019).

There is an urgent need for a quality curriculum that leads to the empowerment of the pupil teachers and the teacher educators, by developing their professional competencies and skills. The well-organized teacher education curriculum leads to an overall change in the education system as per the requirement of all the policy changes and developments in the field of teacher education. There is a requirement for humane and professional teachers with their full faith in the constructivist approach to teach at all levels of education in India. Humane and professional teachers make the learners learn the content happily in the classrooms without any major reforms and will achieve the aim of education 'a happy child constructs his knowledge happily.

In 2009, the National Curriculum framework (NCF) suggested critically reviewing the existing B.Ed. programme. It was felt that the existing one-year B.Ed. programme seems to have outlived its relevance in the present time. It was realized that B.Ed. programme has become weak both in theory and practice due to its structural constraints i.e. short duration. On the other hand two-year B.Ed. programme seems to be relevant because it strengthens the B.Ed. programme in terms of intensity, rigour, and duration. Therefore, NCF (2009) emphasized the structural transformation of the existing one-year B.Ed. programme to two years B.Ed. programme within a finite time frame. NCF (2009) advocated reflective and critical engagement of pupil teachers with theory as well as more protracted engagement with school-based experience.

For a better understanding of the difference in the curriculum of one year B.Ed. programme and two-year B.Ed. programme, a comparative analysis of curriculum of B.Ed. programme with one and two academic year duration has been done and presented in table 1.1.

Table 1.1

Curriculum Comparison of One and Two Year B.Ed. Programme

Curriculum of One Year B.Ed. Programme	Curriculum of Two Year B.Ed. Programme
1. Foundation of Education • Education and Development • Education: An Evolutionary Perspective • Contemporary Issues	1. Perspectives in Education • Childhood and Growing Up • Contemporary India and Education • Learning and Teaching • Gender, School, and Society • Knowledge and Curriculum • Creating an Inclusive School • Health, Yoga and Physical Education

Curriculum of One Year B.Ed. Programme	Curriculum of Two Year B.Ed. Programme
2. Pedagogical Knowledge and Pedagogical Content Knowledge • Learner and Learning • Teaching: Approaches and Strategies Assessment for Learning • Learning Resources • Classroom Organization and Management • Two School Subjects Add on Courses - Language Proficiency Workshop and ICT-Skill Development	2. Curriculum and Pedagogic Studies • Language across the Curriculum • Pedagogy of a Two School Subject • Assessment for Learning
3. School-Based Experiences • Initiatory School Experiences • Internship in Teaching	3. Engagement with the Field • Tasks and Assignments • School Internship • Courses on Enhancing Professional Capacities (EPC) - Reading and Reflecting on Texts, Arts in Education, Understanding ICT and Its Application, and Understanding the Self

Table 1.1 depicts that the curriculum of two years B.Ed. programme is more focused on experiential, real, practical, and reflective learning as well as training. Pupil teachers must get more professional experiences and an understanding of the realities of the teaching-learning process. Two-year B.Ed. programme is more focused on preparing quality teachers and ultimately improves the quality of the future education system.

As a result, new regulations of national policy for higher education for secondary teacher education programme i.e., B.Ed. were made in 2014 by NCTE and the duration of B.Ed. programme increased from one academic year to two academic years in the year 2015.

The various curricular areas of two years B.Ed. programme are shown in figure 1.1.
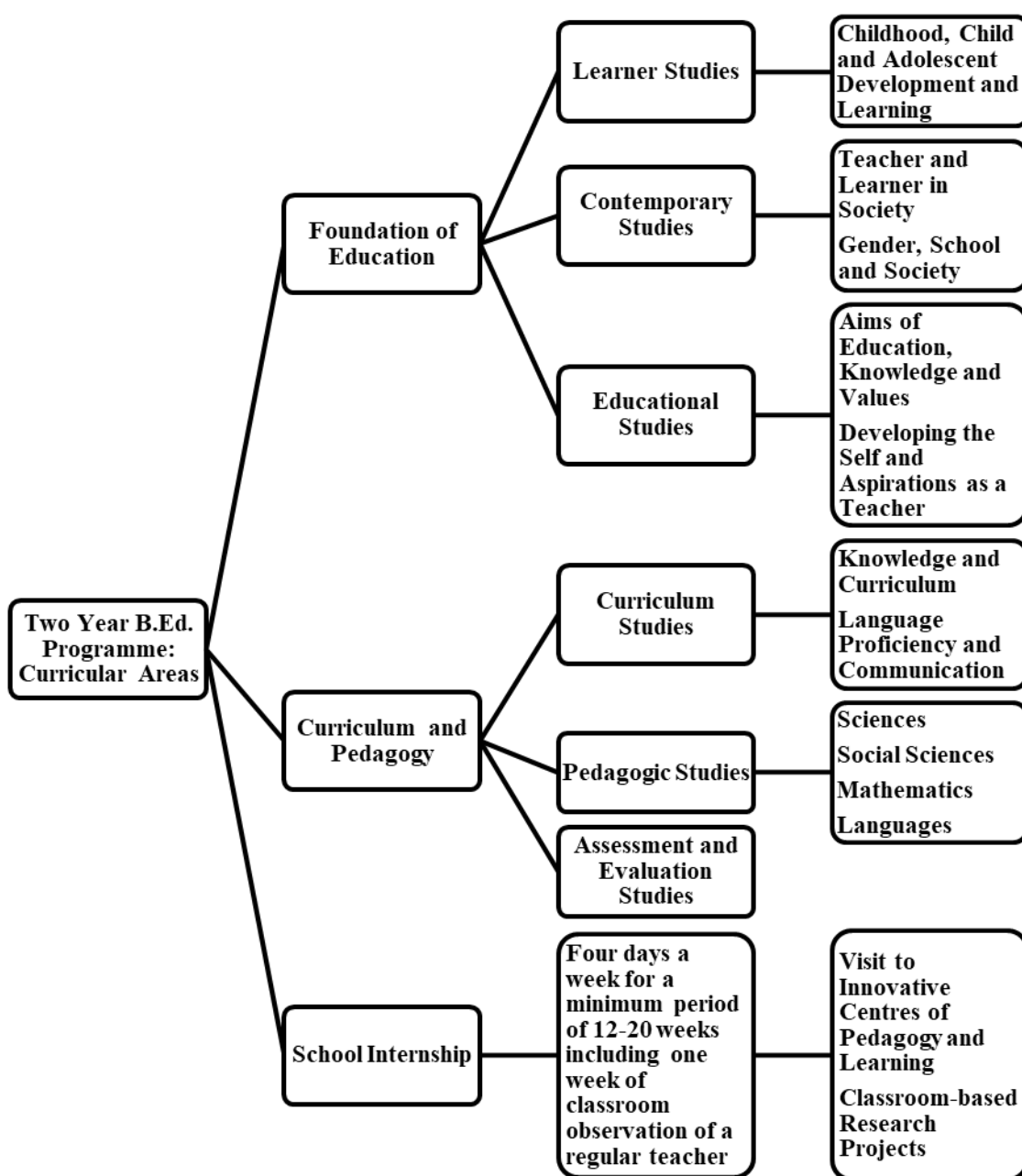
Figure 1.1   Main Curricular Areas along with Potential Courses

Source: National Curriculum Framework for Teacher Education, NCTE (2009)

The transformation in Teacher Education Programme from one year to two years B.Ed. Programme can be visualized as mentioned in figures 1.2 and 1.3.
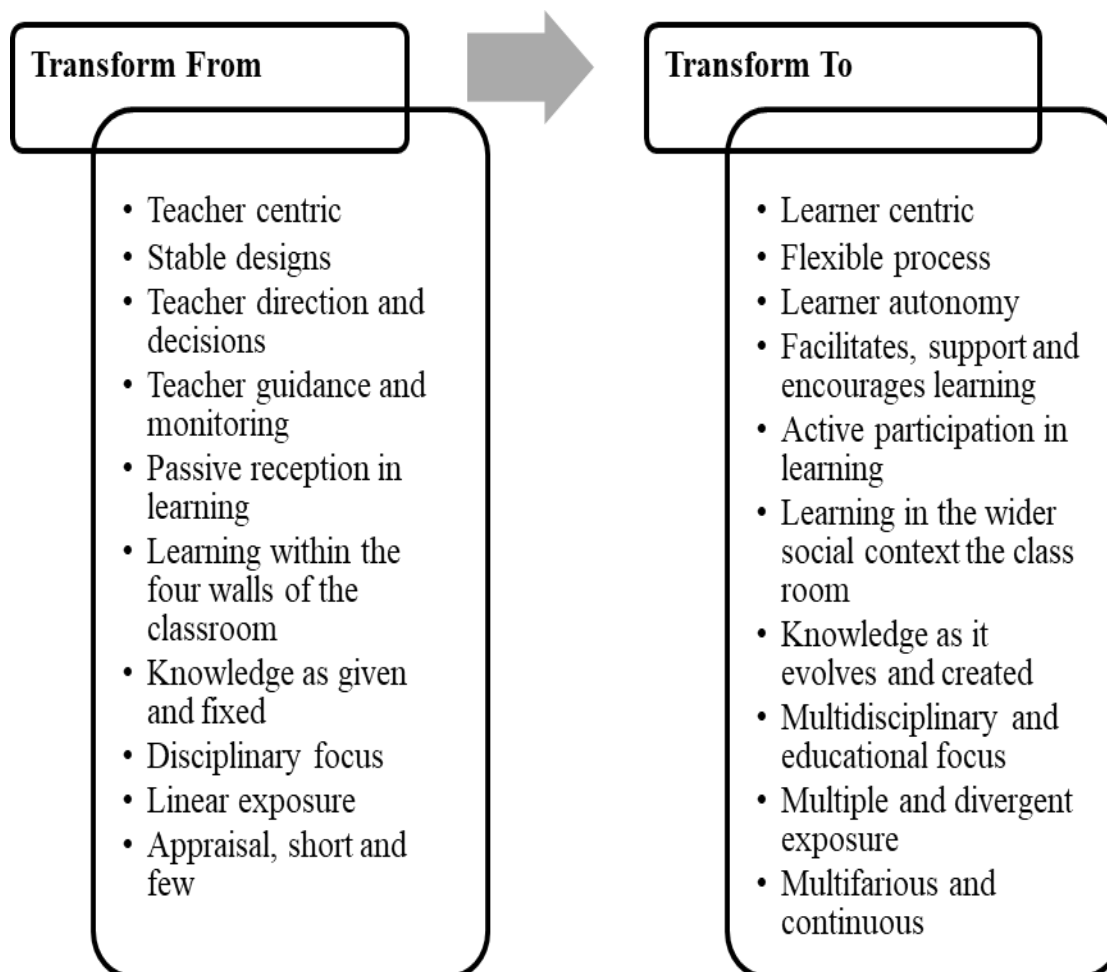
Figure 1.2   Transformation of Teacher Education Programme from one year to two years B.Ed. programme

Source:https://www.renupublishers.com/images/article/147376195002.pdf

Structure of Two Year B.Ed. Programme

NCTE made the modern curriculum as the base for improving the quality of B.Ed. programme. Three broad inter-related curricular areas i.e., *Perspectives in Education; Curriculum & Pedagogic Studies; and Field Engagement* were more focused in two years B.Ed. programme. Various field-based activities and projects are included in all the courses of B.Ed. programme along with their theoretical inputs keeping in view the interdisciplinary perspective. The purpose of field engagement activities is to develop a holistic link among all courses of B.Ed. programme and it was fulfilled by including special courses of *Enhancing Professional Capacities* for pupil teachers.

14

Semester I

(18 Weeks - 16 weeks for teaching + 2 weeks School Exposure)

Childhood and Growing Up

Contemporary India and Education

Language across the Curriculum

Pedagogy of School Subject-1 & 2 – Part I

Understanding ICT and Its Application

School Exposure

Engagement with the Field: Tasks and Assignments related to Subjects

Semester II

(18 Weeks – 16 weeks for teaching + 1 week School Attachment Programme + 1 week community living camp)

Learning and Teaching

Pedagogy of School Subject-1 & 2 – Part II

Knowledge and Curriculum

Assessment for Learning

School Attachment

Community Living Camp

Engagement with the Field: Tasks and Assignments related to Subjects

Structure and Semester Wise Distribution of Courses in Two Year B.Ed. Programme

Semester III

(18 weeks - 16 weeks Internship)

Pre internship (1 week)

Internship (15 week)

Engagement with the Field: Tasks and Assignments related to Internship (2 week)

Semester IV

(18 Weeks)

Post Internship – (2 Weeks)

Gender, School and Society

Reading and Reflecting on Texts

Arts in Education

Understanding the Self

Creating an Inclusive School

Health, Yoga and Physical Education

Engagement with the Field: Tasks and Assignments related to Subjects

Figure 1.3   The Basic Structure of the Two Year B.Ed. Programs

Source: Syllabus of B.Ed. Programme, Department of Teacher Education, National Council of Educational Research and Training (2016)

A variety of approaches like observations of children, reflective journals, case studies, projects, interactions with the community, and group presentations are suggested in multiple socio-cultural environments for the effective transaction of all the courses of B.Ed. programme. A period of 20 weeks is allocated for two years for various assignments, tasks, and school internship under the broad area of the curricular area - Field Engagement. A period of 4 weeks (1 week for school engagement and 3 weeks for other field-based activities) for field engagement is spread over several days

throughout the year during the first year of two years B.Ed. programme. During the second year of two years B.Ed. programme, 16 weeks (1 week for field activities and 15 weeks for school internship) are mentioned for field engagement. Out of 15 weeks of school internship, the pupil teachers utilize the first week for observing a regular classroom of a regular teacher and try to adjust to the school environment. In the rest of 14 weeks, the pupil teachers perform as interns, observe the teaching of respective subject teachers and peers in their classes, conduct case studies, writing a reflective journal based on different aspects of the teaching experiences, and reflect on their teaching experience during and after the school internship.

School internship should not be mere delivery of lessons in class but be focused on meaningful and holistic engagement of pupil teachers with learners in the school. The development of a broad range of perspectives, professional capacities, teacher dispositions, sensibilities, and skills among pupil teachers are ensured during the school internship. Pupil teachers must actively be engaged in teaching at the upper primary and secondary level as well as be trained to cater to the diverse needs of learners in classrooms/schools during the school internship. There must be a provision of the school internship for pupil teachers in government and private schools so that they are exposed to the work culture/environment of both types of schools. An adequate number of teacher educators must be engaged in the school internship for different types of support of pupil teachers like regular supervision, feedback for classroom teaching & field activities; timely mentoring, and guidance during field engagement activities.

According to NCTE, the specific aim of a two-year B.Ed. programme is to get the expected behavioral changes among the pupil teachers. The only reason for NCTE behind this is to bring the quality of teachers in India. NCTE aims to shape excellent teachers by their teaching strategy/methodology; psychological techniques; philosophical and social concepts through two years B.Ed. programme. NCTE has also suggested the organization of various extracurricular activities i.e. awareness programme and co-curricular activities for the facilitation of students and teachers. NCTE also emphasizes imparting technical knowledge to pupil teachers and the development of teaching professionals for educational institutions of India for quality improvement in the Indian education system.

1.1.3 Models of Evaluation

In the past, researchers have evaluated different aspects of B.Ed. programme like instructional procedures, pedagogical effectiveness, teaching effectiveness, and training procedures and their effectiveness, technological competence, academic achievement and holistic developments among learners, etc. with various scales and models. For example, Mishra, and Koehler (2006) proposed a TPACK (Technological Pedagogical Content Knowledge) model which gives importance to pedagogical knowledge, content knowledge, and technological knowledge. This model evaluates teacher's knowledge for efficient integration of technology in teaching and learning only and is not suitable to holistically evaluate any programme, as the need of the present study is to evaluate all the aspects of B.Ed. programme holistically and not in isolation.

Program evaluation is defined as the systematic collection of information about the activities, characteristics, and outcomes of programs to make judgments about the program, improve program effectiveness, and/or inform decisions about future programming (Patton, 1997). Processes involved in evaluation can be highly complex. Generally, these processes are multifaceted and include a wide variety of activities and procedures. This difficult task has been made easier by evaluation experts who have developed specific evaluation models. Each provides a format for planning and conducting evaluations that are both effective and efficient.

The various models of evaluation are given below:

- ✓ Tyler's Evaluation Model
- ✓ Kirkpatrick's Evaluation Model
- ✓ Stufflebeam's CIPP Evaluation Model
- ✓ Matfessel and Michael's Evaluation Model
- ✓ Hammond's Evaluation Model
- ✓ Stake's Responsive Model
- ✓ Scriven's Goal Free Evaluation Model
- ✓ Parlett and Hamilton Model

All the above-mentioned models are briefly discussed one by one as follows:

Tyler's Objective Model (1940)

Evaluation is based on objective-oriented theory tested in 1940 which is known as the Tylerian model or Tyler's objective model. It is based on the basic principles of matching the pre-behavioral objectives with the actual outcome (Tyler, 1949). In this model, the curriculum is considered as a means of aiming towards attaining education as objectives. It is a conceptual framework and outlines a methodology to evaluate the progress of the students with respect to the objectives or principles of the curriculum. It focuses on the four aspects i.e., objectives/purposes of programme, educational experiences, learning experience, and student's performance.

The strengths of Tyler's objective model are - considers curriculum as a means of aiming toward an educational objective; aims at student's developing behaviors as the curriculum/target of teaching; helps in better curriculum development with respect to the objectives of the curriculum; used to define objectives for the new curricula, and review the extent of objectives realization; do not apply for expensive and troublesome comparisons between experimental and control groups; gives more importance to learning outcomes instead of organizational and teaching inputs so remain free from the subjective opinions of the professionals.

The weaknesses of Tyler's objective this model are – model has more focus on objectives; ignores process; less useful in assessing the significance of a program; not useful in the diagnosis of the reasons for curriculum failure; does not provide feedback to stakeholders regarding the improvement of a program; does not establish a connection between organization and evaluation.

Kirkpatrick's Evaluation Model (1950)

It is designed to objectively measure the effectiveness of training. The four levels of the model are – a) reaction, b) learning, c) behavior and d) results. In this model, each successive evaluation level is built on information provided by the lower level. According to this model, evaluation should always begin with level one and then move successively through levels two, three, and four as the time and budget permits.

The next level's evaluation is completely based on the information of the immediate previous level.

Stufflebeam's Cipp Evaluation Model (1960s)

It is one of the oldest and thoroughly tested models. In the words of Daniel L. Stufflebeam, CIPP Evaluation Model is defined as a comprehensive framework for guiding evaluations of programs, projects, personnel, products, and evaluation system. There are four important dimensions i.e., Context evaluation, Input evaluation, Process evaluation, and Product evaluation of the model. It is based on learning by doing. It is a continuous effort to identify and correct mistakes made in evaluation practice. It is always invented and tests the required new procedures for more effective practices. It is free from human subjective feelings to reach a more precise conclusion. Based on the specific guidelines proposed by Stufflebeam (2000), which states the objectives, methods, and the use of each component of the CIPP model, an evaluator has the freedom to use the whole or just one dimension of the CIPP model; and select a method as per their requirement.

The strengths of the CIPP model are - not designed for any specific programs or solution; easily applied to multiple evaluation situations due to the reason that clear and in-depth guidance developed for investigator by Daniel Stufflebeam and his colleagues; Context, Input, Process, Product of the CIPP model can be used separately or as the whole process to evaluate programs as per need of investigator.

The weaknesses of the CIPP model are – the features of Context evaluation are similar to needs assessment, and the application of the whole model takes much time.

Matfessel and Michael's Evaluation Model (1967)

Matfessel and Michael's Evaluation Model is heavily influenced by the work of Tyler. Its major contribution was in expanding the investigators' possibilities regarding alternative instruments that might be used to collect evaluation data. The major steps to be followed in this model are – a) involve the stakeholders, b) formulate cohesive model, c) translate specific objectives into a communicable form, d) select instruments to inference about the program effectiveness, e) carry out periodic observations, f) analyze data, g) interpret the data, h) develop recommendations.

The strengths and weaknesses of this model are the same as that of Tyler's Objective Model.

Hammond's Evaluation Model (1968)

Hammond's Evaluation Model is the extension of Tyler's work. It includes a more detailed structure for evaluation. Hammond believed that it is equally important to finding the answer for whether or not goals were attained as well as the reason for the attainment or non-attainment of goals of a programme. To find the answer for why he developed a three-dimensional model in the form of a cube also known as the structure for evaluation. The three dimensions of the model are instruction, institution, and behavior. With the help of this model, an investigator explores the factors responsible for the failure and success of a program.

The strengths and weaknesses of this model are the same as that of Tyler's Objective Model.

Stake's Responsive Model (1970)

Its focus is more on program activities than on program intents; audience requirement for information; and in reporting the success and failure of the program. According to Stake, there is no single true value to anything, but many valid interpretations of the same events, so, the emphasis is more on the concerns of the primary stakeholders and to collect the opinions of individuals in and around the program through conversations on an ongoing basis during the evaluation.

The strengths of Stake's responsive model are - questions emerge during the evaluation process; describes the program in a way that is readily accessible to the audience; audience interacts with evaluator with respect to their issues as well as concerns and reacts to the feedback given by the evaluator.

The weaknesses of Stake's responsive model are – the evaluation process of the model takes a long time which ultimately increased its application time; for a non-experienced evaluator, it is difficult to apply the model; the role of evaluator changes from a researcher to resource person, and it makes difficult to maintain the focus of the evaluation which fails to answer specific questions.

Scriven's Goal Free Evaluation Model (1972)

In the words of Michael Scriven, Goal-Free Evaluation Model is a model in which official or stated program goals and objectives are withheld or screened from the evaluator. The word goal in Goal-Free Evaluation Model means the broad statements of the program's purposes or expected outcomes, usually not specific enough to be measured and often concerning long-term rather than short-term expectations. The focus of the model is the outcomes of the educational program. In this model, the evaluator pays attention to the results accomplished by the designers' educational programs and is not influenced by the goals of the programs. This model is suggested to be used as a supplementary to goal-oriented framework The main steps to be followed in the model are- a) Identify relevant effects; b) Identify what occurred; c) determine if what occurred can logically be attributed to the program; and d) determine the degree to which the effect is positive, negative or neutral.

The strengths of the goal-free evaluation model are - evaluator remains attentive to a wider range of program outcomes, and the evaluator acts as an internal or external evaluator, and is used to supplement goal-based evaluation.

The weaknesses of the goal-free evaluation model are - conceptually abstract; highly theoretical; and quite hard for evaluators to assess educational programs.

Parlett and Hamilton Model (1976)

The focus of this model is on multiple audience perspectives and program process; studies both how and what is of a programme from the teacher or student's perspective. It evaluates all aspects of the curriculum. It uses a three-step process i.e., a) regular observation of classroom and curriculum by an investigator, b) investigator identifies the most in need issues from the several issues, and c) based on the issue identified in step two, investigator finalizes the basis of evaluations of the program.

The strengths of this model are – exact recording of the happenings and ensures the actual teaching of the curriculum content.

The weaknesses of this model are – investigator has to find out the major areas of concern after the preliminary phase of observation but it does not take into account

the wrong observation of the investigator during preliminary phase observation and it relies on the trick (subterfuge and deception) that may not be the reality.

Anh (2018) comprehensively discussed the four well-known evaluation models in education: Tyler's objective model, Stake's responsive model, Scriven's goal-free model, and Stufflebeam's CIPP model. These four evaluation models have a long history and have been thoroughly developed over time. The application of these four models is found in many fields of evaluation, but mostly in educational program evaluation. Nature, characteristics, strengths, and weaknesses of the four evaluation models have been discussed to develop better and deeper understandings of the four models among educational evaluators. It has been analyzed that Tyler's objective model is often applied in curriculum development/evaluation as well as used to assess attainment of the programs proposed objectives; Responsive model of evaluation is useful for evaluating in a limited time period; Scriven's goal-free model is useful to increase the effectiveness of the evaluation, and Stufflebeam's CIPP model of evaluation is widely used for educational programs in many fields for accountability as well as improvements. Each of the four models of evaluation has its strengths and weaknesses. Therefore, evaluators should select one model of evaluation as per their needs and evaluation experiences.

In the past, researchers have used the Tyler's Evaluation Model, the Matfessel & Michael's Evaluation Model, and the Hammond's Evaluation Model for the curriculum development or evaluation; the Kirkpatrick's Evaluation Model to evaluate the effectiveness of training; the Stake's Responsive Model to evaluate programme activities rather than programme intents; the Scriven's Goal Free Evaluation Model to increase the effectiveness of the evaluation; the Parlett and Hamilton Model to evaluate all the aspects of the curriculum; and the Stufflebeam's CIPP Evaluation Model for comprehensive evaluation of programs or projects by taking into account the evaluation of their context, input, process, and product aspects. The researchers also widely used Stufflebeam's CIPP Evaluation Model for the evaluation of the accountability, implementation, and improvements of educational programs or projects and institutions as a system.

To sum up, it is concluded that Stufflebeam's CIPP model of evaluation is apt for evaluating the impact of the two years B.Ed. programme. Some contextual changes need to be done in the CIPP model of evaluation to use it in Indian conditions. The description of the same is given below:

1.1.4 Theoretical Framework of Evaluation Model

It has been observed that Stufflebeam's CIPP model of evaluation is the most suited model for the present study as it is a popular evaluation approach in educational settings (Fitzpatrick et al., 2011; Zhang et al., 2011). Daniel Stufflebeam's CIPP Evaluation Model (late 1960s) has a long history and it has been updated regularly, so, it proves to be extremely beneficial in evaluation. It is used by evaluators, program specialists, researchers, developers, policy groups, leaders, administrators, committees or task groups, and layer persons (Anh, 2017, p.147; Stufflebeam, 2014, p.310). While searching for the relevant literature on the CIPP model, Zhang, from East Carolina University, found that in different fields about 200 CIPP related evaluation studies, journal articles, and doctoral dissertations were conducted across the world (Stufflebeam, 2014). The model is also found to be applied in 134 doctoral dissertations in eighty-one universities involving 39 disciplines like agriculture, aviation, business, communication, distance education, teacher education, elementary, tertiary, and secondary religion, and sociology.

The Evaluation Framework

The Stufflebeam evaluation model includes four evaluation parameters i.e., Context, Input, Process, and Product (CIPP). Context evaluation guides for the selection of objectives and assignment of priorities. Input evaluation guides for the selection of program strategies and resources to realize program objectives. Process evaluation guides in monitoring the program implementation. Product evaluation guides for the termination, persistence, or amendment of the program (Worthen, Sanders, &Fitzpatrick, 1997; Finch & Crunkiton, 1993).

It emphasizes the systematic provision of information for programme management and its operations. The intention of the four core concepts of the CIPP

model i.e., Context, Input, Process, and Product evaluation, is not to prove, but rather improve, the program itself (Stufflebeam, 2003).

With the help of this model, evaluation can be done systematically, fulfilling the general needs of evaluation. The important element which makes this model different from other models is that it focuses on the context for the evaluation of the teaching-learning and development process (Stufflebeam & Shinkfield, 2007).

The four aspects of the CIPP model i.e. Context, Inputs, Process and Product evaluation are described as follows:
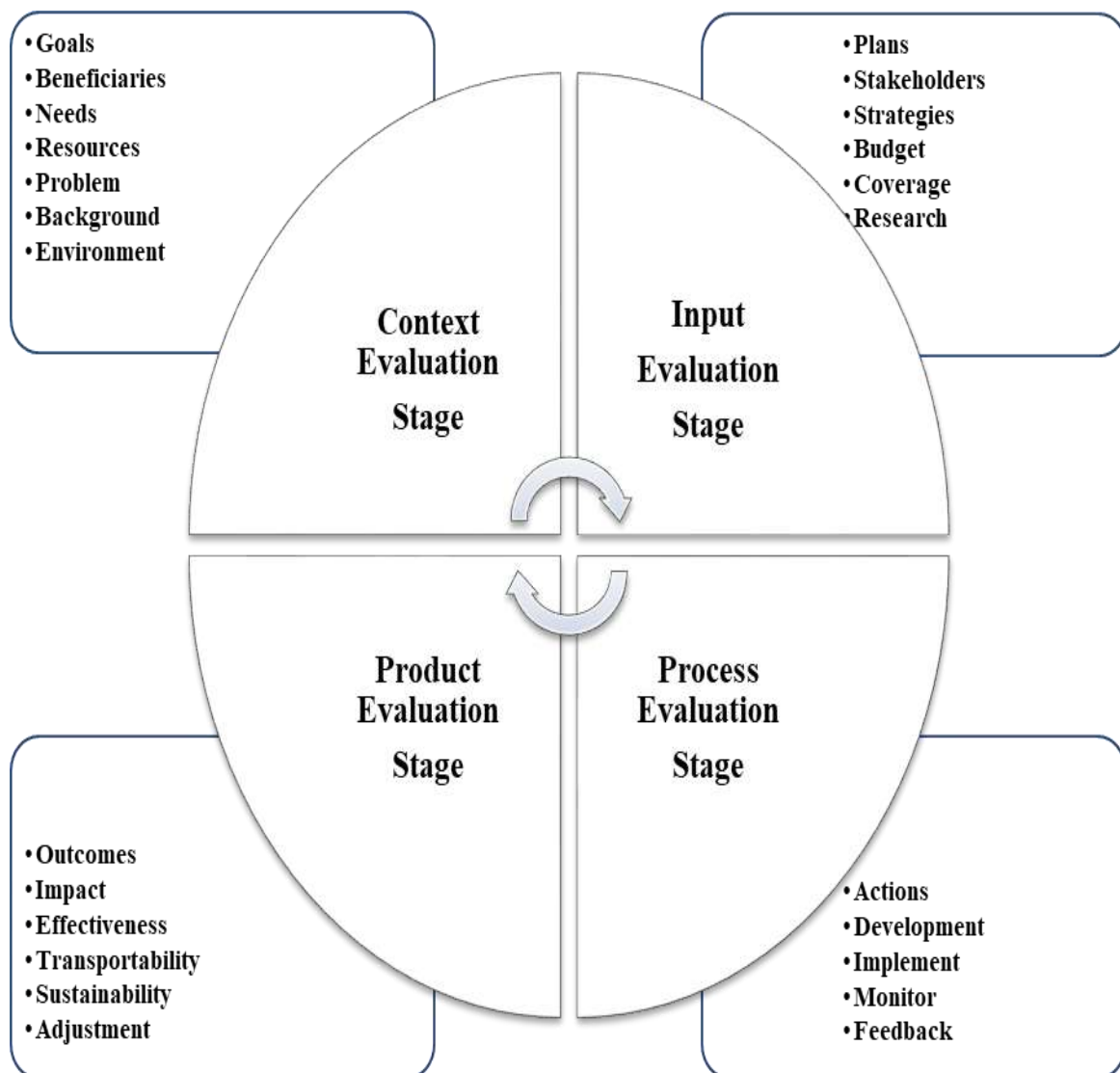
Figure 1.4   CIPP Evaluation Model

Source: https://poorvucenter.yale.edu/CIPP

Context Evaluation

The context Evaluation stage of the CIPP Model creates the big picture where both the program and evaluation fit (Mertens & Wilson, 2012). It assists in decision-making related to planning and enables the evaluator to identify the needs, assets, and resources of a community to provide programming that will be beneficial (Fitzpatrick et al., 2012; Mertens & Wilson, 2012). The evaluator compiles and assesses background information, and interviews program leaders and stakeholders. It involves identifying the needs and problems of an educational program (Gall, Borg, & Gall, 1996). Methods used in this first phase of the evaluation process include interviews, surveys, needs assessment, document review, hearing, diagnostic tests, and the Delphi technique (Stufflebeam, 1983). Context evaluation focuses on answering the following question: What should we do?

Input Evaluation

Input Evaluation means collecting the information regarding the mission, goals, and plan of the program. Its purpose is to assess the program's strategy, merit, and work plan against research, the responsiveness of the program to client needs, and alternative strategies offered in similar programs (Mertens & Wilson, 2012). It concerns making judgments and decisions about the resources that are needed to accomplish the goals and objectives of an educational program (Gall et al., 1996). This stage intends to choose an appropriate strategy to implement and to resolve the program problem (Fitzpatrick et al., 2011). It utilizes methods such as literature and document reviews, visits to exemplary programs, pilot trials, and advocate teams (Stufflebeam. 1983). Input evaluation focuses on answering the following question: How should we do it?

Process Evaluation

Process Evaluation investigates the quality of the program's implementation. It involves collecting data during the implementation of the program to be evaluated. Program activities are monitored, documented, and assessed by the evaluator in this stage (Fitzpatrick et al., 2011; Mertens & Wilson, 2012). This can be achieved by describing the actual implementation of the program (for example, teaching, student

activities, materials used) and by observing the activities of project staff (Stufflebeam, 1983). The primary objectives of the process evaluation are to provide feedback regarding the extent to which planned activities are carried out, to guide staff on how to modify and improve the program plan, and to assess the degree to which participants can carry out their roles (Sufflebeam, 2003). Process evaluation focuses on answering the following question: Are we doing it as planned?

Product Evaluation

Product Evaluation deals with the collection of outcome data to be used in measuring, interpreting, and judging the effectiveness of the program (Stufflebeam, 1983). It assesses the positive and negative effects the program had on its target audience (Mertens & Wilson, 2012), assessing both the intended and unintended outcomes (Stufflebeam, 2003). The methods used in this final phase of the evaluation include collecting judgments of outcomes from the stakeholders (for example, levels of achievement, rate of recidivism) of the program. The judgments of stakeholders and relevant experts are analyzed, viewing outcomes that impact the group, subgroups, and individuals. Product evaluation focuses on answering the following question: Did the programme work?

Based on the CIPP model, the four stages of evaluation i.e. context, input, process, and output are identified as factors for which corresponding areas or dimensions have been identified as per the two years B.Ed. programme accredited by NCTE, New Delhi.

Table 1.2

Application of CIPP Evaluation Model to B.Ed. Programme

Factors/Stages of Evaluation	Areas/Dimensions	Procedure	Implications
Context Evaluation	Vision & Mission of NCTE, College of education, Objectives, Programme Expected outcomes, School curriculum, and Contemporary skills	Scale administration and Focused group discussion	Analysis of programme Objectives and stakeholders perceptions

Factors/Stages of Evaluation	Areas/Dimensions	Procedure	Implications
Input Evaluation	Administrative/Management structure, Academic structure, Real Vs. planned/intended curriculum, Qualifications, Resources, and Eligibilities	Scale administration and Focused group discussion	Evaluation programme Design
Process Evaluation	The monitoring programme, Guidelines, Overall quality, Courses and content, Pedagogies, Evaluation procedures, and Critical analysis of all aspects	Monitoring, recording, Scale administration and Focused group discussion	Evaluating the delivery of programme
Product Evaluation	Context, Input & Process relevancy, Performance of students, Success rate, employability, and Terminal competencies	Scale administration, Focused group discussion, and Performance assessments	Overall programme evaluation, correction, modification, or termination

Further, the procedure to evaluate all the four factors was identified with its implications in the evaluation process. The outline of Stufflebeam's CIPP model to be used for the evaluation of two years B.Ed. programme in the present research is given in table 1.2. This proposed theoretical framework of the CIPP model of evaluation will be developed and standardized with the help of focus group discussions with experts and its content validity will be ascertained. These are discussed in detail in the proceeding chapters.

This thesis is organized into five chapters. In the second chapter, the review of related literature is presented. The topics covered include research studies related to program evaluation, B.Ed. programme and impact of B.Ed. progrmme. In the third chapter,

detailed description of the research method; population and sample with respect to universities, institutions/colleges of education, principals of colleges of education, teacher educators and pupil teachers; construction & standardization of tools; procedure of data collection and techniques of data analysis. The fourth chapter deals with objective-wise analysis, discussion, and interpretation of results. The final chapter i.e., chapter five contains a summary of the study, conclusions, limitations, recommendations based on the findings of the study, and suggestions for future research studies.

CHAPTER II
REVIEW OF RELATED LITERATURE

This chapter deals with the synthesis and analysis of published research work in the area of CIPP evaluation Model and Teacher Education i.e., B.Ed. programme. The review of related literature culminates into the research gaps, the genesis of the problem, statement of the problem, operational definitions of the term used, objectives, research questions, and delimitations of the present research study.

2.1   REVIEW OF RELATED LITERATURE

The previous studies are summarized under the following headings:

•   Reviews of Studies Related to Model of Evaluation

•   Reviews of Studies Related to Teacher Education/B.Ed. Programme

2.1.1 REVIEWS OF STUDIES RELATED TO MODEL OF EVALUATION

Investigator reviewed the literature related to the model of evaluation and reported the related research studies below:

Onyefulu (2001) evaluated the B.Ed. (Business Education Programs) in the UTECH (University of Technology), Jamaica. The investigator used CIPP model of evaluation proposed by Stufflebeam for the evaluation of the B.Ed. (Business Education Programs). The results of the study revealed that B.Ed. (Business Studies and Secretarial Studies Programs) have more weaknesses than the strengths; the expected student outcomes were seen as acceptable; the overall quality, support, and components of B.Ed. (Business Studies and Secretarial Studies Programs) were on balance, somewhat poor and inadequate; the graduation rate is not high; and graduates do not possess all the abilities as per the objectives of programme, expected students' outcomes, and expectation of principals of the schools where they teach.

Edmonton (2001) conducted a study entitled an evaluation study of the B.Ed. business education programs at the University of Technology, Jamaica. The findings revealed that there are both strengths and weaknesses of the present B.Ed. Business Studies and Secretarial Studies programs. However, in the present case, the weaknesses far

outnumbered the strengths. While the objectives and, especially, the expected student outcomes were seen as acceptable, the overall quality and support for the B.Ed. Business Studies and Secretarial Studies programs and their components were on balance, somewhat poor and inadequate.

Sangai and Garg (2009) evaluated the teacher training programme at Indira Gandhi National Open University by adapting major tenets of the CIPP model. The analysis shows that the programme was well designed; printed study materials were of high quality; the workload was perceived to be heavier; use of technology was scanty; student-teachers lacked aptitude for problem-solving and independent thinking and the success rate was above 90%.

Fatima (2010) evaluated the post-graduate programmes of teacher education in Pakistan using CIPP model of evaluation. The findings of the study revealed that a variety of teaching methods were used by the teaching faculty according to the nature of objectives, content, and students; evaluation systems were satisfactory; admission criteria for the postgraduate programme required restructuring; curriculum of postgraduate programme needed revision; duration of the postgraduate programme and teaching practice was not enough; less research work and fewer publications but more research projects; needed to conduct professional activities for prospective teachers and teacher educators on regular basis, and also needed to appoint more qualified teachers urgently.

The validity and reliability of the evaluation scale developed by Hakan and Seval (2011) based on the principles of Stufflebeam's CIPP Evaluation Model (1988) within the context of the evaluation of English curriculum of Yildiz Technical University. Based on the results of factor analysis, it was found that 1) final CIPP evaluation model scale consisted of 46 items which are distributed in four factors i.e., the context, input, process, and product like the original form i.e., CIPP evaluation model; and 2) CIPP evaluation scale is a valid and reliable curriculum evaluation instrument which can be used in the field of education for evaluation purpose.

Zhang et al. (2011) explored the CIPP evaluation model's theoretical roots and applications, delineated its four components, analyzed each component's role in a service-learning project's success, and discussed how the model effectively addresses service-learning standards for quality practice. The focus was also on the application

and evaluation of the model in a teacher-education service-learning tutoring project. It has been found that Stufflebeam's CIPP evaluation model has the potential to guide faculty members to systematically collect the assessment data at each stage of a service-learning project by using service-learning as a teaching tool and to improve the project faculty members can craft informed judgments.

Kuo et al. (2012) tried to identify a formal evaluation model for the effects of integrating emerging technology into a standard-based curriculum. For this purpose, several evaluation models (i.e., Tyler's Model, The Metfessel and Michael Model, Hammond's Model, Alkin's Evaluation Model, Stufflebeam's CIPP Model, Management Model of Evaluation, and Tessmer's Formative Evaluation Planning Process) were reviewed and compared. After the analysis, a model with fourteen stages was proposed. It is a means for understanding how integrating emerging technology content into a formal curriculum is going. Based on the evaluation goal, criteria should be identified before evaluation could be conducted. The model fulfills the needs of a system to pinpoint the effects of integrating emerging technology into formal technology of education. This model can reveal the integral information and characteristics of curriculum innovation.

Gujjar (2013) evaluated the B.Ed. programme and compared its curriculum with Business Studies (BS) Education-Professional Area. The findings revealed that the majority of heads of the institutions and teacher educators were satisfied with most of the dimensions of B.Ed. training programme; the majority of student teachers expressed their dissatisfaction over the training programmes; and B S Education programme was considered to be more popular and effective than B.Ed. programme.

Adaboh (2014) evaluated the bachelor's degree in accounting program in a Ghanaian Private University. The findings of the study revealed that the program was perceived by students, former students/graduates, faculty, and administrators as performing positively in the context and product dimensions as compared to input and process dimensions; there were no significant differences in the perceptions of the students, graduates, faculty, and administrators; provision of specific additional resources i.e., library resources; facilities like classroom facilities, more teaching, and learning materials, opportunities for faculty improvement and administrative support, required some improvement.

Ghani and Zain (2014) evaluated the perception of teachers on the implementation of inclusive education using CIPP model of evaluation. The result showed that there was a significant difference in the level of perception of teachers with respect to the type of teachers and there was no significant difference in the level of perception of teachers with respect to the gender of teachers.

Patil and Kalekar (2015) evaluated some practical aspects of schools by using Stufflebeam's CIPP evaluation model. The investigators explained the use of CIPP model for formative and summative evaluation; suggested extending CIPP model and should be used as decision/accountability oriented evaluation.

Warju (2016) evaluated educational programme using CIPP model. It has been concluded that CIPP evaluation model is a commonly used evaluation model; information collected through CIPP evaluation model compared with the real conditions; implementation of the programs; and the findings/facts contained in context, input, process, and product with predetermined criteria.

Ulum (2016) evaluated a state high school English as a Foreign Language (EFL) Program through CIPP model. The results revealed that most of the students partly agreed about context, input, process, and product components of the programme; most of the students did not favour the coursebook of the program, and students thought that the course time was too much, same topics in the courses and common exams specified in the program were difficult.

Kurnia, Rosana & Supahar (2017) developed an evaluation instrument based on CIPP model for the implementation of portfolio assessment in science learning. The research and development method; adapted 4-D for the development of the non-test instrument, and the evaluation instrument (constructed based on CIPP model) was used in the study. The interviews, questionnaires, and observations were used as data collection techniques. The findings of the study revealed that the evaluation instrument is valid.

Tingley (2017) evaluated the southeast school district's special education program. Daniel Stufflebeam's CIPP model of the evaluation was used. It has been found that the school district's handbook was generally compliant with state and federal guidelines; the vast majority of students' IEPs were standards-based; the district was less compliant with documenting research-based interventions during the child study

process and with documenting eligibility decisions, and high staff turnover appears to be a barrier but the hiring of a compliance specialist was seen as a positive factor in successful program implementation.

Aziz, Mahmood, and Rehman (2018) evaluated educational quality at schools using Stufflebeam's CIPP evaluation model (1983). The findings revealed that the welfare schools focused on quality education by using relevant courses, effective communication, advanced technology as well as teaching and learning strategies; teachers focused more on rote learning and theoretical work, which harmed the intellectual abilities of students; and welfare schools have lack of proper space, effective environment and were situated in rented buildings.

Dehkordi and Talebinezhad (2018) evaluated the effectiveness of high school grammar programme through the perspectives of instructors and students. The CIPP evaluation model developed by Stufflebeam (1971) was used. The findings revealed that the grammar program at a high school served its purpose and to make the grammar program more effective, some improvements were required in the objectives, teaching methods, and grammar curriculum that affect the oral productive skill.

Dousti, Delkhah, and Darvishi (2018) evaluated the Physical Education College of Mazandaran University based on (CIPP) model. From the perspective of both students and professors, it has been found that the Physical Education faculty of Mazandaran University has a proper distance with the ideal point in all the four criteria i.e. context, input, process, and product of CIPP model.

Ngala et al. (2019) evaluated the implementation of the distance education programme of the University of Buea using the CIPP Model of evaluation. It has been found that more improvement was required at the context stage of implementation of the distance education programme whereas the programme achieved its objectives at the Input, Process, and Product level of implementation.

Esgaiar and Foster (2019) investigated the implementation of CIPP Model for Quality Evaluation in the faculties of education at Zawia University in Libya. It has been found that there are several inadequacies in the current English language programme in terms of programme delivery, teaching resources, the balance of language skills taught, and students' work assessment.

Lakew and Musa (2019) researched the evaluation of outcome-based accounting education and training offered by public and private colleges in selected colleges in West Oromia, Ethiopia. A cross-sectional survey and CIPP model were used. The findings revealed that there is a limitation concerning relevance and content in accounting education and training curriculum; there was a deficiency of adequate inputs (i.e., an adequate number of qualified trainers, computers, and reference books); mainly lecture method was used by trainers, and there were various problems associated with continuous and summative evaluation.

Agustina and Mukhtaruddin (2019) evaluated the effectiveness and quality of the integrated English learning program based on the CIPP Model. The findings revealed that the context is seen from the effectiveness of the programme, quality of the programme is discussed by input, implementation of the programme is described by the process, and attainment of program goals is revealed by product.

Colakoglu, Eker, Guneri, & Akcaalan (2020) evaluated the views of students to the current 9th grade English course curriculum in Turkey based on the CIPP model and analyze the dynamic relationships between the dimensions of the CIPP model by using structural equation modeling. The findings of the study revealed that there was 1) strong direct effect of context on input, input on the process, and process on the product; 2) moderate indirect effects of context on the process, context on product and input on the product; and 3) weak direct effect of context on the product.

Conclusion

The review of studies related to the model of evaluation concluded that models of evaluation were used to evaluate the different educational and training programmes at various levels and in different settings, the subjects, and curriculum at different levels, the effectiveness of educational and training programme on stakeholders, the application of evaluation models; the quality of education, the educational programme (distance and regular mode); the institutions at a different level; the views and perceptions of stakeholders about course curriculum and on the implementation of programme. They are also used to develop evaluation instruments and establish the validity as well as reliability of the evaluation scale.

After reporting the research studies related to the model of evaluation; the investigator reviews the literature related to evaluation, influence, and impact of B.Ed. programme and reported the related research studies below:

2.1.2 REVIEWS OF STUDIES RELATED TO B.ED. PROGRAMME

Srivastava (1982) conducted a study on the effectiveness of the teacher education program. The study was a normative survey. The major findings were - the ten colleges, having a teacher education department were unequal in size and facilities; and none was initially opened with the intentions of providing facilities of teacher education. The colleges were on the government grant list; hence there was no problem with staff salary payment. Except for SC & ST student trainees, all others were required to pay fees. The Teacher-Educator, Student-Teacher ratio was 1:14. Facilities for non-teaching staff were inadequate. Admission rules, as prescribes by the state government were followed, which had many drawbacks. The whole program comprised theory, teaching practice, and sessional work. Average working days were only 118. Immediate desired changes that need to be incorporated in the program were, in its curriculum, organization of practice teaching, admission and evaluation procedures, and establishment of independent colleges of education, teacher-educators orientation, and research facilities.

Hemabujan (1983) conducted a critical study of teacher education at the secondary level in Tamil Nadu. The findings of the study were that the state-government controlled the recruitment of all teacher-educators; the selection was done on a reservation basis; the service of teacher-educators was secure and their salaries were paid; the comprehensive B.Ed. the curriculum was not effectively implemented due to time shortage etc.; and the revised B.Ed. syllabus in force in Tamil Nadu was appropriate and fulfilled the requirements on the professional side, but teacher educators lacked in the content knowledge of the academic subjects.

Bhatia (1987) evaluated new B.Ed. the curriculum in the colleges of education affiliated to the University of Bombay. The main conclusions of the study were that there were some important changes in the new B.Ed. syllabus on the one hand and the other hand quite a few topics were repeated. Implementations of the new curriculum

were found to be difficult. Teacher-educators unanimously agreed that the area of practice teaching was the most important part of B.Ed. program. A large majority found the B.Ed. curriculum mechanical and book-oriented. The study indicated that the theory load should be brought down and the ratio of the theory and practice should be fifty: fifty.

Nayak (1988) studied the quality of prospective teachers and the selection procedure in practice for admission to the B.Ed. course in Orissa. It was found that there were 70% quality recruits as per the first three variables, i.e. motivation to join B.Ed. course, attitude towards the school teaching profession and attitude towards children, there were approximately 50% quality recruits as per the next two variables of personality, namely, social values and mental health, and 57% of quality recruits according to the socio-economic status variable, there was a tendency of a larger number of quality recruits being admitted by the private colleges as compared to government colleges and the selection procedures of admission to the B.Ed. programme adopted by all the teacher training colleges has not made it possible to recruit a significantly high number of quality recruits.

Srivastava (1989) attempted to study the impact of the teacher education programme of Lucknow University on pupil-teachers attitude and teaching efficiency. The findings of the study were that most of the trainee groups changed their teacher attitude positively and significantly after training, the experienced male trainees did not show any change in their teacher attitude, there was no significant change in the teacher-aptitude of the male postgraduate student-teachers and the experienced female trainees as a result of the training, all the trainees showed significant and appreciable improvement in their classroom teaching performance, after the completion of the training, the females showed better teacher-attitude and aptitude than the male trainees. Male trainees showed better teaching efficiency than female trainees, and the trainees teaching social sciences showed better teaching efficiency than those teaching science and mathematics and except for the fourth paper secondary school organization, all other theory papers had a positive and significant correlation with teaching efficiency.

Roy (1991) examined the impact of the elementary teacher education programme on attitudinal change of the elementary teacher-trainees of Orissa towards community

involvement. The findings of the study were - the elementary teacher education programme with the elements of community involvement, both in theory and practice, positively affected the change in the attitude of the student-teachers towards community involvement, both the categories of student- teachers were almost equally prone to change in their attitude towards community involvement. Previous teaching experience had no role to play in the change in the attitude of student-teachers towards community involvement and the degree of interest in teaching was responsible for accelerating the development of attitude towards community involvement.

Nagpure (1991) conducted a critical study of the system of teacher education at the secondary level in Maharashtra. Questionnaire and interview schedule were used as data collection tools. The findings revealed that the percentage of permanent affiliation to government colleges of education was 41% and that of aided colleges of education was 71%., the average expenditure per private unaided college of education was Rs. 2.38 lakh, which was one-third of the expenditure per private aided college, innovative methods like team teaching and models of teaching were rarely tried out in the colleges of education and about 30% colleges of education had opted population education, continuing education, and distance education.

Walia (1992) evaluated secondary teacher education programmes in northern India. It sought to discover the weaknesses and dysfunctionality of the curriculum and practices at this level of teacher education. It was found that the curriculum of secondary teacher education lacked uniformity and clear-cut definition, the majority of teacher education institutions had late defective admission criteria and late admissions, provision for the optional/specialization paper ranged from 4 to 39 papers in different universities, out of which only one paper was to be selected and four-year teacher education programme was preferred to the existing one- year B.Ed. programme.

Patted (1992) studied whether the selection procedure, the changed syllabi, the innovations, and the evaluation procedure have any impact on the qualitative improvement of the secondary teacher education programme in Karnataka. The findings of the study revealed that the eligibility for admission to the B.Ed. programme which was 35% from 1968-81 had been raised to 45% in 1982 in all the

universities; lecture, assignment, discussion and seminar methods were used, while case study and project methods were used as innovative methods, most of the colleges had their buildings, classrooms, psycho-lab, audio-visual room, ladies' lounge, books and journals, and SUPW facilities, a majority of the colleges were run by the students' fees, donations and management funds, except the colleges run by the State government or the university, a majority of the teaching staff had B.A./B.Sc., M.A./M.Sc. and M.Ed. degrees with second division; and a few had Ph.D. degrees. A few universities had framed the objectives after 1982 and framed regulations for admission to the B.Ed. course. The enhancement of minimum percentage at the Bachelor's degree to 50% and a minimum of two school subjects to be studied at this level and an entrance test were quite essential for qualitative improvement of the secondary teacher education course, and for assessment of annual lessons, the mean of the two examiners was taken into consideration.

Behari (1998) conducted a study on analysis of Teacher Education Curriculum in the context of requisite abilities for effective teaching. The study analyzed the teacher education curriculum in relation to the development of requisite abilities for effective teaching. The findings of the study revealed that the methodology of teaching paper was more helpful than foundation papers taken together in developing abilities, especially skills, but practice teaching or practical skills in teaching were found to be more helpful than the rest of the teacher education programme in developing abilities especially skills. Dramatics as the activity and discussions as a mode of transaction of programme were found to be more helpful. It was observed that a theory-practice link was missing in the teacher education programme and, therefore, the student-teachers were not able to link what they had learned.

Minsun et al. (2004) studied whether a standards-based integrated teacher preparation curriculum is more beneficial in developing professional competencies than a traditional course-oriented curriculum at a college of education in a state university. It was found that students who went through the new integrated curriculum reported higher levels of professional preparation in all 13 standards and competency areas than those who went through the traditional course-oriented curriculum. This finding remained strong even when the teaching majors were included and controlled as another factor variable. Students in the integrated curriculum and those in the

traditional curriculum had comparable characteristics, high school grade point averages (GAPs), and college GPAs.

Kaur (2008) studied the impact of B.Ed. programme on teacher effectiveness, personality, teaching aptitude, and attitude towards teaching of prospective teachers. The findings indicated that as an impact of B.Ed. programme, there were positive effect on teacher effectiveness, personality, teaching aptitude and attitude towards teaching of prospective teachers; female and male prospective teachers have shown significant improvement in their teacher effectiveness, personality, teaching aptitude and attitude towards teaching; teacher effectiveness among female prospective teachers was more as compared to male prospective teachers; there were more changes in the personality of male prospective teachers as compared to female prospective teachers; female and male prospective teachers became more good natured, outgoing, more intelligent, emotionally stable, mature, assertive, active, expressive, responsible, socially bold, ready to try new things, independent, realistic, practical, polished, experienced, worldly, confident, more tolerant of change, resourceful and controlled; prospective teachers became a little bit tense and frustrated due to the responsibility to accomplish many tasks of the programme and less duration of the course; male prospective teachers became more suspicious, hard to fool, experimenting, liberal, analytical, resourceful, self opinionated, more tolerant of change, independent, socially aware and controlled, more tense and frustrated as compared to female prospective teachers; and enhancement of teaching aptitude and improvement in the attitude towards teaching was same among female and male prospective teachers.

Kaur (2008) in her study entitled analytical study of change in motivity of B.Ed. students during the teacher training programme in Punjab found that the most preferred motive for joining the B.Ed. training course as a love for the teaching profession. The 60%, 51.32%, and 53.68% students have recorded their first preference in favour of this motive at entry stage, middle stage, and final stage respectively. It was found that the majority of teacher trainees have a positive perception towards internship.

Bhat (2017) studied the effect of pre-service teacher education on the teaching effectiveness of prospective teachers in relation to their gender and stream. A sample

of 200 prospective teachers was selected from the central universities of Delhi. The findings revealed that training has a significant impact on the teaching effectiveness of the prospective teachers, gender has no significant effect and stream has a significant effect on the teaching effectiveness of the prospective teachers.

Qazi et al. (2008) tried to encompass the issues and challenges related to the implementation Strategy of B.Ed. teaching practice in real school classrooms on the basis of their Perception. The result showed that the two groups of sampled teachers did not differ significantly; student-teachers perceived that teaching practice in the B.Ed. programme was ineffective from the implementation perspectives; student-teachers perceived that lecture-based teaching methods and techniques employed during the coursework did not help novice teachers in implementing innovative classroom teaching techniques, and experiences of the two trained groups of teachers showed no significant difference in B.Ed. teaching practice objectives and its implementation in professional teaching contexts.

Khan and Saeed (2009) studied the perceptions of graduates and their supervisors' towards the effectiveness of pre-service teacher education programme. The five major content areas (i.e., lesson planning, presentation, use of audio-visual aids, teaching methods, and assessment skills) of B.Ed. programme is the focus of the present study. It has been found that B.Ed. programme was effective in terms of upgrading knowledge and five content areas; the graduates performed better in three content areas (i.e., lesson planning, presentation, and assessment skills) as compared to the other two areas (i.e., use of audio-visual aids and teaching methods); female graduates were more satisfied than male graduates with respect to the curriculum; and there is a need to take measures by the university of education constituent and affiliated colleges in improving the skills of prospective teachers in using teaching methods and audio-visual aids (i.e., projectors, multimedia, and computer skills) during the B.Ed programme.

Khan and Saeed (2010) evaluated the quality of B.Ed. programme based on students' views about their college experiences. The results showed that B.Ed. programme was effective in terms of updating student teachers' knowledge and skills; the quality of B.Ed. curriculum, lesson planning, and presentation favoured by student teachers; teacher educators had some reservations about the proper use of audio-visual aids for

effective classroom teaching-learning processes; female student teachers showed more satisfaction with the quality of B.Ed. curriculum and teaching than their male counterparts. No significant difference was found in the opinion of the students of GCETs having low, medium, and high enrolment.

Prince (2010) conducted a study entitled effectiveness of teacher preparation: from theory to practice. This study evaluated the significance of self-esteem as a framework to assess the theory and practice relationship within the secondary departmental teacher preparation program curriculum. Further, this study captured the students' perception of how relevant the theory-practice relationship is in preparing them to teach. The culmination of the information provided in this study contributed to the overall training and development strategy that has been recommended based on the proposed individual collaboration advising model that reflects the need to customize teacher preparation programs to best fit the individual skills and aptitudes of the teacher candidates.

Pandey (2010) critically analyzed the teacher education curriculum reforms and their effectiveness on the professionalization of teacher education in India. It has been found that the present teacher education programme is inadequate to meet the challenges of diverse Indian socio-cultural contexts; professionalism needs to be instilled in each phase of teacher preparation, and there is a need to improve the quality of education.

Suleman et al. (2011) evaluated the effectiveness of the teacher training programmes offered by Kohat University of Science & Technology Kohat (Khyber Pukhtunkhwa) Pakistan. The results indicated that B.Ed. programme is effective; meets the needs and requirements of the prospective teachers; does not inculcate Islamic ideology; includes improper distribution of theory and practice; does not provide sufficient base for research, and does not introduce modern instructional strategies.

Ahmad et al. (2012) examined the effectiveness of teacher preparation programs conducted through the Regional Institutes of Teacher Education (RITE) in Khyber Pakhtunkhwa, Pakistan. The results revealed that the teacher preparation programs were found useful in developing pedagogical skills of prospective teachers; clearly and easily communicate in classroom situations by prospective teachers; successful implementation of prepared lessons plans by prospective teachers; development

of classroom management skills among prospective teachers; effective use of different strategies in classrooms for student's learning evaluations by prospective teachers; prospective teachers shared their experiences; and teacher preparation program has failed to develop research skills among prospective teachers.

The teaching attitude of prospective teachers (Dwivedi and Singh, 2012) and teaching competence of prospective teachers (Bala and Singh, 2013) were found to improve after preservice teacher education training.

Babu and Raju (2013) conducted a study to examine the attitude of student teachers towards their profession in the Vizianagaram district of Andhra Pradesh, India. Results of the study revealed that significant differences were observed in the attitude of student teachers towards the teaching profession with respect to gender and subjects of study.

Pal (2014) analyzes the shift of one year B.Ed. to two-year B.Ed. programme in relation to quality enhancement of aspiring teachers. Investigator analyzed the existing teacher education programme and its privatization; two-year B.Ed. programme; and qualitative improvement in the teacher education programme. The analysis revealed that opportunity for rigorous theoretical study, self-study, cooperative learning, reflection, and pedagogical skill development, involvement with the children, the school, the classroom, and the community is only possible with reasonable time duration for teacher preparation programme. Four months of the teaching internship in schools provide enough scope to integrate the theory and practice. An effort has been made by teacher education institutions to prepare teachers with a proper mindset and capabilities for transforming the philosophy of education into a practical learning experience. The investigator suggested that to provide quality pre-service education to bring quality improvement in teacher education in India, it is very much essential to reorganize the teacher education in the country.

Prasad (2014) studied the effect of the teacher training programme on self-concept, self-confidence, teaching competency, and role commitment of special teacher trainees. It has been found that the effect of the teacher training programme on the self-concept of orthopedic and vision disabled special teacher trainees was positive but statistically insignificant; teacher training programme developed self-confidence and role commitment of special teacher trainees as a group; teacher training

programme does not develop self-confidence among orthopedic special teacher trainees, and teacher training programme is not suitable to develop role commitment among orthopedic and vision disabled special teacher trainees when analyzed separately.

Kamboj (2015) conducted a study entitled impact of two years B.Ed. programme as a stressor among teacher educators in relation to teaching experience and nature of the job. The result showed that teacher educators were under stress due to the stressor of the introduction of two year B.Ed. programme but do not differ significantly from each other in relation to the length of their teaching experience; Adhoc teacher educators were facing significantly higher stress than regular teacher educators due to this stressor, and the variables teaching experience and nature of the job of teacher educators interact significantly with each other.

Malik and Sindhu (2015) explored the relationship between teaching aptitude and teaching competency of B.Ed. pupil teachers. The study revealed that a significant difference was found between teaching aptitude and teaching competency of rural male B.Ed. Pupil teachers. Similar results were found out for rural female B.Ed. pupil teachers. However, results were reversed for urban male and female B.Ed. pupil teachers for the same comparison of teaching aptitude and teaching competency.

Barua (2015) compared the quality of public and private-funded institutions based on the perception of B.Ed. students with regard to learning enhancement in nine northern regions. Investigator revealed that no significant difference was found in the perception of B.Ed. students towards learning enhancement with respect to gender, age group and the type of institution; a significant difference was found in the perception of B.Ed. students towards learning enhancement with respect to the type of institution; and B.Ed. students of public-funded institutions had a more favourable perception towards learning enhancement than B.Ed. students of private-funded institutions.

Gopalan (2015) studied the impact of B.Ed. programme on student teachers in developing professional competencies for handling learning disabilities. The findings revealed that the perception about learning disability of student teachers does not vary considerably during the entire B.Ed. programme; before and after Internship programme, the difference in means is found to be significant for groups with and

without previous teacher training; the difference in proportions is found to be significant for those strategies that are most commonly used by teachers (like classroom observation, class tests, assessment of classwork and homework); the instructional planning by student teachers is not affected by the internship programme; before and after Internship programme, the difference in means is found to be significant for groups with and without previous teacher training; and student teachers' perception about learning disability does not influence their instructional planning by the internship programme.

Rajput (2016) explored issues of B.Ed. programme in terms of one year or two years and teaching-learning process based on observations and reflections. The investigator has tried to understand the relevance of the duration of B.Ed. course in the light of recommendations and suggestions of the various commissions. Investigator found that, with the support of extensive recommendations of educationist, judiciary, and policymakers, the duration of two years for B.Ed. course is logical and necessary for the better education of future Indian citizens and in the interest of nation-building.

Sushma (2016) studied the attitude of teacher educators' towards two years B.Ed. programme. Results revealed that teacher educators did not differ significantly in their attitude towards two years B.Ed. programme with respect to gender and experience whereas differ significantly in their attitude towards two years B.Ed. programme with respect to the type of institution.

Nataraja (2016) studied the attitude of teacher trainees towards two years B.Ed. programme and their future. Investigator found that teacher trainees have a positive attitude towards two years B.Ed. programme; teacher trainees believed that two-year B.Ed. programme improves the quality of teacher trainees and teacher trainees were hopeful for their future.

Sao and Behera (2016) studied the student-teachers attitude towards Two-year B.Ed. programme with special reference to NCTE New Regulation, 2014 in Purulia district of West Bengal. The results revealed that the B.Ed. student-teachers have an average attitude towards two–year B.Ed. programme; B.Ed. student-teachers did not differ significantly in their attitude towards two-year B.Ed. programme with respect to gender, category, and experience whereas they differ significantly in their attitude towards two-year B.Ed. programme with respect to locale and type of B.Ed. college.

Srilatha (2016) studied the opinion of B.Ed. students on a two-year B.Ed. programme. It was found that 93% of the B.Ed. students were in favour of two years B.Ed. programme; and there exists no statistical significance of the difference in the opinion of B.Ed. students in two years B.Ed. programme with respect to gender, management, methodology, and qualification.

Adhikary (2017) studied the perception of the teacher trainees towards two years B.Ed. programme implemented in the teacher education institutions in Assam. A descriptive survey method was used. The results revealed that- teacher trainees showed a mixed perception towards the two-year B.Ed. programme; the majority of teacher trainees were dissatisfied with the curriculum distribution of the two-year B.Ed. program. Teacher trainees perceived that more theoretical and more complex papers were there in the first and second year respectively of B.Ed. programme. Most of the teacher trainees were shown their dissatisfaction with the inclusion of teacher education paper as an optional paper in the curriculum of B. Ed; most of the teacher trainees have a negative perception towards two years B.Ed. programme with respect to its duration and economic compatibility as compared to the duration and economic compatibility of one year B.Ed. programme. Teacher trainees perceived that four months of a teaching internship in school without any remuneration and uncertainty of getting involved in the desired profession after two years was also a factor of disinterest to the two-year B.Ed. progamme among them.

Khan (2017) studied experiences of pupil teachers and teacher educators in two years B.Ed. program through an empirical investigation. Results of the study revealed that pupil teachers and teacher educators showed more unfavorable experiences in two years B.Ed. program; many pupil teachers and teacher educators showed moderate experiences as well; pupil teachers and teacher educators have least favorable experiences in the implementation of curricular activities; pupil teachers and teacher educators have highest unfavorable experience in internship program; teacher educators did not have much difference in favorable or unfavorable attitude towards two years B.Ed. program; and teacher educators have the highest unfavorable experiences in the organization of two years B.Ed. program.

Mahajan and Rana (2017) studied the problem faced by the pupil-teacher during two-year B.Ed. programme in Shimla district of Himachal Pradesh. It was found that

pupil-teachers, teacher educators, and administration of institutions faced different problems after the implementation of two years B.Ed. programme. Results of the study revealed that 62% and 24% of pupil-teachers studied in government and self-financed institutions respectively were not satisfied by the facilities provided to them by their institutions i.e. government institution did not provide adequate facilities whereas self-financed institution provided adequate facilities to pupil teachers; 50% and 51% of pupil-teachers studied in government and self-financed institutions respectively were not satisfied by the availability of adequate teaching and non-teaching staff, and 74% and 60% of pupil-teachers studied in government and self-financed institutions respectively were not satisfied by the availability of appropriate study materials according to Two Year B.Ed. programme in their institutions.

Vijayalakshmi and Menon (2017) studied the perspective of teacher educators and teaching competencies for imparting two-year B.Ed. programme suggested by NCTE in Karnataka. The results showed that the mean score of teachers' perspective towards two-year B.Ed. programme is at a moderate level; the mean score of teachers' competency level is at a high level; and teachers' perspective towards two-year B.Ed. course and teachers' competency levels were positively correlated.

Gorain (2017) prepared an attitude scale and studied the B.Ed. teacher educators' attitude towards two years B.Ed. programme in Birbhuem and Bardhaman district of West Bengal. The results of the study revealed that - 20%, 30%, 32.5%, 15%, and 2.5% of the respondents' endorsed strongly agree, agree, undecided, disagree, and strongly disagree respectively towards two-year B.Ed. programme; 37.50% and 52.50% of the respondents perceived that the duration of one year was sufficient and not sufficient respectively for preparing of a trained teacher; 32% and 20% of the respondents perceived that students were interested and not interested respectively in other programme instead of doing B.Ed. whereas 48% of the respondents couldn't say anything about students interest in doing B.Ed.; 30% and 15% of the respondents perceived that school administration accommodated and not accommodated respectively pupil teachers for 20 weeks of teaching internship whereas 55% of the respondents remained neutral on this issue; 77% and 13% of the respondents advocated demonstration school was needed and not needed respectively within the B.Ed. campus to complete practice teaching properly whereas 10% of the respondents

revered their opinion; 88% and 12% of the respondents were in favoure of and against respectively to adopt the semester system for two years B.Ed. programme; 87.50% and 5% of the respondents were in favour and not in favour respectively of using continuous comprehensive evaluation for the assessment during two year period of B.Ed. programme whereas 7.5% of the respondents revered their opinion; 50% and 35% of the respondents advocated that the entrance test for admission in two years B.Ed. programme should and should not be obligatory respectively 15% of the respondents reversed their opinion; 82.50% and 8.25% of the respondents agreed and disagreed respectively to include environmental issues, education for children with special needs, value and peace education, and child's right and education in the curriculum of two-year B.Ed. programme whereas 10% respondents could not say anything, and teacher educators did not differ significantly on their views towards two years B.Ed. programme with respect to gender, locale, and type of institution.

Sudha (2017) explored the attitude of the teacher trainees and teacher educators about two years B.Ed. programme. The results revealed that two years B.Ed. programme was favoured by teacher educators and not favoured by teacher trainees; teacher trainees differ in their attitude towards two years B.Ed. programme with respect to gender and did not differ with respect to locality and level of education; teacher educators do not differ in their attitude towards two years B.Ed. programme with respect to gender, locality, and level of experience; and no relationship appeared between the attitude of teacher educators and teacher trainees.

Tamang (2018) explored the factors impacting the attitude of teacher educators towards two years B.Ed. programme in some selected colleges of West Bengal. The researcher concluded that the two years B.Ed. programme is necessary for successful completion of the course; to develop proper teaching skills in student teachers, and the student teachers of two years B.Ed. course get more opportunities for practice teaching.

Sahoo and Sharma (2018) studied the perception of student teachers towards curriculum reform in various teacher education programme. It was found that student teachers enrolled in various teacher education programmes perceived the curriculum reform in teacher education programmes positively.

Sahoo and Sharma (2018) explored the perception of student teachers towards the restructuring of teacher education programmes. The result of the study revealed that student teachers enrolled in D.El.Ed., B.A./B.Sc.- B.Ed., B.Ed. and M.Ed. have expressed positive preception about structural reforms in teacher education introduced as per NCTE regulation, 2014 and are supportive to strengthening reform in the teacher education institutions of Odisha state.

Gupta (2019) studied the perceptions and experiences of B.Ed. students about internship and sessional work. The results showed that student teachers viewed the internship programme as a real opportunity to refine and improve their teaching skills in an actual school setting; the concerned supervisor played an important role in enhancing their teaching skills; hand-on experiences and longer duration of field experience helped the students in understanding the classroom teaching process in a better manner; and perceived the challenges in the area of classroom management, long-distance of practice school from home, a large number of lesson plans, conducting constructivist approach-based lessons at the school level, administration, scoring and interpretation of psychological tests, data collection for action research, preparing presentations for sessional work, etc.

Banu and Maheshwari (2019) studied the problems faced by the student-teachers during two-year B.Ed. programme in Trichirappalli district Tamilnadu. Results of the study revealed that 85% student-teachers of government-run B.Ed. Colleges were unsatisfied by the facilities provided to them in their institution whereas 90% and student-teachers of private-run B.Ed. Colleges were satisfied by the facilities provided to them in their institution as per the requirement of two years B.Ed. programme.

Mishra and Koner (2019) comprehensively studied the effectiveness of a newly designed two years teacher education program. Investigator found that the newly constructed teacher education curriculum is a good initiative; the implementation of the curriculum will not be much effective without infrastructural development and regular monitoring of the programme by NCTE, and there is a need to take proper initiatives for the fruitful implementation of the programme by the government and the private enterprise apart from profit-making business.

Gupta and Rakwal (2020) assessed the perceptions of teacher trainees towards the two-year teacher education programme being run in Jammu, India. Results of the

study revealed that teacher trainees of the B.Ed. and M.Ed. programmes had positive perceptions towards the duration, pedagogical aspects, curriculum, and innovativeness of the programme; male and female teacher trainees have the same perception towards the two-year teacher education programme; and teacher trainees of private and government colleges as well as teacher trainees of B.Ed. and M.Ed. differ significantly from each other based on their perception towards the two-year teacher education programme.

Conclusion

The review of studies related to B.Ed. programme concluded that in the past research studies had been conducted to study the perceptions, attitudes, experiences, observations, and reflections of stakeholders towards teacher education programmes at different levels with respect to various factors like duration, curriculum, quality, training module, etc.; the effectiveness of teacher education programmes at different levels with respect to their various aspects; the impact of teacher education programmes on the stakeholders; issues, problems, and challenges related to the implementation of teacher education programmes; and the relationship between various aspects associated with teacher education programmes.

2.2   RESEARCH GAPS

1. The studies conducted earlier were mostly focused on one-year programme and pupil teachers only.
2. Almost negligible comprehensive studies on the impact of two years B.Ed. programme was available at the time when the present research was taken. So, more researches are required considering all the potential stakeholders like pupil teachers, teacher educators, and principals of Teacher Education Institutions.
3. There is a dearth of comprehensive and holistic researches on the change of duration of the course and its impact on admissions, faculty intake, resource creation, etc.
4. Earlier either quantitative or qualitative studies were conducted separately. The mixed research studies were not found to better explain the results.

5. The CIPP model was used to evaluate school subjects, school curriculum; B.Ed. programme (in regular and distance mode); physical education programme; development of instrument etc. till 2020 but no investigator conducted research having the focus to evaluate the impact of two years B.Ed. programme on stakeholders and institutions based on the four aspects of the CIPP model of evaluation.

Therefore, a study to evaluate the impact of B.Ed. programme on pupil teachers, teacher educators, principals, and institutions, based on the CIPP model of evaluation, was undertaken in the present context when B.Ed. programme is extended to two years.

2.3 SIGNIFICANCE OF THE STUDY

Teacher education is the basis of any education system. The effectiveness of teacher education guarantees the quality of education because the teacher is one of the basic and essential elements in the whole process of education. Although in ancient and medieval times, there were no formal arrangements of teacher education, yet India has never been devoid of the inspiring presence of high-quality teachers. Education was a part of Indian culture dominated by religious practices. The high standards of Indian people's moral uprightness show that the teachers were successful in creating an honest and vibrating society. So, the need for the kind of teachers' training, which existed in the British period, was never felt. In this sense, India was an educationally developed country long back. The teachers or Gurus in those ages had their ways of expanding their knowledge and there appears to be a sublime continuity and similarity in their ways and mediums during ancient and medieval periods. For instance, the monitorial system, conferences, discussions, debates, and seminars, which existed in ancient India, continued in medieval India too. However, under the political control of Europeans in India, things took a different shape. Wood's Despatch for the first time introduced the pupil-teacher system leading to the certification and employment of teachers. India's exposure to the west and her hunger to gain knowledge and appreciate its achievements led to an altogether new and scientific approach to education. In this new age and changed circumstances, a very systematic and objective system of teacher education began which was neither superior nor inferior to

the system of the past whose achievements were equally praise-worthy for the upcoming generations. After Independences, the needs and requirements of the education industry took a different shape. Over the years, different training institutions have been established, which impart training to teachers at different levels like elementary and secondary. Of late, many new self-financed institutions of education have mushroomed. Some institutions are either governed purely by the government or aided by the government. The third type of institution is privately managed B.Ed. colleges that do not get grant-in-aid from the government and are purely self-financed type. Although, NCTE has come into the picture to exercise its regulatory power/control over the quality of education being provided in these training institutions yet the quality of training is doubted and questioned by the general public at various forums.

Various researchers have found a mismatch between the perspective and philosophy of schools and Teacher Education Institutions (TEIs) about the role of the teacher and taught in TEI and as required in schools. Is there a problem with the training procedures being adopted in TEIs or different types of institutions in itself is the greatest hindrance in quality training? Answers to such potent questions need to be explored. Researchers in the past have worked on these issues but in a fragmented manner by covering one or the other issues and not in a holistic manner. A holistic exploration covering all aspects like context, input, process, and output of the programme is required for overall quality evaluation. This guides to have a look into the procedures being adopted in different types of institutions.

The other reason which highlights the importance of this study is the change in the duration of the B.Ed. programme. Till 2015, B.Ed. programme was of one-year duration. In one year B.Ed. programme, the theory was given more weightage than the practical components. The teaching practice was the weakest part of the programme. The pupil teachers were forced to teaching situations in the real classroom without much understanding of the school system and different techniques of teaching. Supervision of teaching practice was also a challenge because of lack of time with teacher educators and indifferent attitude of school teachers towards practicing teachers. All such issues were raised by educationists at various levels as one-year B.Ed. programme was not able to produce competent and professional

teachers as per the need of the time. NCTE in 2015 changed this one-year B.Ed. programme into two years B.Ed. programme with the focus to develop more humane and competent professionals. The focus was to overcome the deficiencies or limitations of one year programme like lack of time, less duration of teaching practice, less emphasis on practical components, less engagement of school and society, etc. The researcher himself has experienced some limitations of one year B.Ed. programme while teaching or supervising the teacher training procedures. The lack of trained teachers, short duration of the training period, much emphasis on basic subjects as compared to skills/practical courses, are few to mention. In addition to these, there is no emphasis on the sensitization of pupil teachers towards society and inclusion practices in schools. It was also observed that after completing the teacher training most of the teachers are having another profession also. As they are somehow in two professions simultaneously, their attention is divided and therefore they have no complete dedication to the teaching profession. Their professionalism is questionable and therefore it's very urgent to study the product dimension of B.Ed. programme to understand and reflect whether B.Ed. programme is producing humane, competent, and professional teachers or not? If not then where is the problem? Such reflections somehow motivated the researcher to assess the B.Ed. programme. But with starting of the two years B.Ed. programme, the researcher also felt the dire need to evaluate the two years programme for its effectiveness. The research intent was to see whether two years B.Ed. programme is developing professional and humane teachers as per the vision of NCTE. The studies conducted earlier were mostly focused on one year programme and consulted pupil teachers only. No comprehensive study on evaluation of the impact of two years B.Ed. programme was found. In such a scenario, the researcher decided to consider all the potential stakeholders like pupil teachers, teacher educators, and principals of TEIs. In addition to this, the change of duration of the course also has an impact on admissions, faculty intake, resource creation, etc. So, the researcher decided to conduct a comprehensive and holistic study to evaluate the impact of two years B.Ed. programme.

Although, NEP 2019 emphasized the 4 years Integrated Teacher preparation programme, yet it maintained that 2-years B.Ed. programme will continue till 2030 and after 2030 institutions offering a 4years programme will be continuing with a 2

years programme as well. In such conditions, it's imperative to evaluate the impact of 2 years B.Ed. programme for its better implementation. As per the policy of the government, in near future, the focus will shift to move teacher education programmes in multidisciplinary colleges and universities. Therefore, research is required to strengthen the 2 years programme by evaluating it through the eyes of different potential stakeholders from the practical field like pupil teachers, teacher educators, and principals of TEIs.

One of the other observations is regarding the employment focus of the programme as mentioned in the curriculum guidelines proposed by NCTE. It was found that the professional enhancement input varies with the type of institution and state. In some institutions, it is academic and regular whereas in some it is modular or workshop-based. Moreover, the focused areas also vary like personal development and grooming, TET preparation, interview focus, and communication skills, and life skills. The impact of these inputs has not been evaluated earlier and that too with respect to their success rate. So, the researcher decides to analyze the professional enhancement practices being given in different institutions and also to suggest the best inputs having a better success rate. It was also observed that the change of duration of B.Ed. programme from one year to two years has resulted in a decrease in admissions and graduates prefer another profession. So, it's imperative to study the impact of two years B.Ed. programme at the institutional level with respect to intake of students, faculty availability and resources procurements, etc. Therefore, the study intends to contribute significantly by considering all the aspects of two years B.Ed. programme both quantitatively and qualitatively.

Further, this research study would guide different stakeholders like pupil teachers, teacher educators, and principals of TEI; and policymakers at the institution, university, state, and national level for the betterment of B.Ed. programme. In due course of time, it will also guide the 4 years integrated teacher training programme for their effective operation.

The findings of the study can guide the institutions, principals, teacher educators, and pupil teachers on various dimensions of context, input, process, and output depending on the type of institutions. It guides the universities to see the holistic picture of procedures being adopted in affiliated colleges. At the state level, it notifies the best

practices, inequalities in procedures, and resource availability, and forwards the state to take appropriate steps. At the national level, the study intends to alert the policymakers and statutory bodies to reflect on best practices, limitations; and inspect the context, input, process, and product dimension; and correspondingly to plan orientation sessions, seminars, workshops, etc. to improve these dimensions across the country for enhancing the effectiveness of two years B.Ed. programme.

To conclude, the research study is based on researchers' personal experiences as a school teacher and teacher educator; places due considerations on NCTE guidelines; considers what has been explored and what is left; analyses research gap; intends to contribute significantly and holistically to solve the existing problems or limitation in two years B.Ed. programme; guides to continue with best practices; and wishes to guide the policymakers at different levels to improve the effectiveness of two years B.Ed. programme which will further assist in better implementations of 4 Years integrated teacher training programmes.

2.4   STATEMENT OF PROBLEM

In India, over the years, different training institutions have been established, which impart training to teachers at various levels. Some institutions are either governed purely by the government or aided by the government. The third type of institution is privately managed B.Ed. colleges that do not get grant-in-aid from the government and are purely self-financed type. Although, NCTE has come into the picture to exercise its regulatory power/control over the quality of education being provided in these training institutions yet the quality of training is doubted and questioned by the general public at various forums. Is there a problem with the training procedures being adopted in TEIs or different types of institutions itself the greatest hindrance in quality training? Answers to such potent questions need to be explored.

Keeping in view these considerations, the present study was taken to examine the impact of B.Ed. programme (IBP) on pupil teachers (PTs), teacher educators (TEs), principals (PCE) working in these three types of institutions. Therefore, the title of the present study is *'IMPACT OF B.ED. PROGRAMME ON PUPIL TEACHERS, TEACHER EDUCATORS, PRINCIPALS AND INSTITUTIONS: AN EVALUATIVE STUDY'.*

2.5   OPERATIONAL DEFINITIONS

B.Ed. Programme

B.Ed. Programme means two-year Bachelor of Education programme designed to prepare pupil teachers for the teaching profession.

Pupil Teacher

A pupil teacher is a student studying in the final semester of two years B.Ed. programme.

Teacher Educator

A teacher educator is a teacher/faculty appointed in colleges of education and department of education in universities.

Principal

The principal is the academic head of colleges of education and department of education in universities.

Institution

Institution means a place where pupil teachers are trained for the teaching profession. For this research work, the word institution also includes the colleges of education and department of education in universities.

2.6   OBJECTIVES

1. To study the impact of the B.Ed. programme on (a) Pupil Teachers, (b) Teacher Educators and (c) Principals.

2. To study the impact of B.Ed. programme on (a) Pupil Teachers, (b) Teacher Educators and (c) Principals with respect to (i) State, (ii) University and (iii) Type of Institution.

3. To study the impact of B.Ed. programme on (i) admission of students, (ii) utilization of institutional resources; and (iii) nature of post, (iv) workload, (v) experience and (vi) qualification of Teacher Educators; and (vii) financial management and (viii) accreditation of the Institutions.

The first and second objectives have been explored by keeping in view the Context, Input, Process, and Product factors of the modified CIPP model in Results and Discussion.

2.7   RESEARCH QUESTIONS

1. What is the impact of B.Ed. programme on (a) Pupil Teachers, (b) Teacher Educators and (c) Principals?

2. What is the impact of B.Ed. programme on (a) Pupil Teachers, (b) Teacher Educators and (c) Principals with respect to (i) State, (ii) University and (iii) Type of Institution studied separately or in combinations?

3. How does the B.Ed. programme impact the (i) admission of students, (ii) utilization of institutional resources; and (iii) nature of post, (iv) workload, (v) experience and (vi) qualification of Teacher Educators; and (vii) financial management and (viii) accreditation of the Institutions?

Note:

Wherever there is a requirement of hypothesis, the researcher stated the respective null hypothesis (Ho). The researcher has no bias for the up-gradation of two years B.Ed. programme.

2.8   DELIMITATIONS

The present study was delimited to

1. Three northern states of India i.e., Punjab (PB), Himachal Pradesh (HP), and Haryana (HR).

2. Government colleges of education (GCE), grant-in-aided colleges of education (GIACE), and self-financed colleges of education (SFCE) one each affiliated to three state government universities (SGU) of the state of Punjab; one state government university (SGU) of the state of Himachal Pradesh; and three state government universities (SGU) of the state of Haryana.

3. Self-financed colleges of education (SFCE) one each affiliated to two private universities (PU) of the state of Punjab and one private university (PU) of the state of Haryana.

4. Evaluation of impact in ex-post-facto conditions and not in pre-post experimental situations.

5. Pupil teachers studying in the final semester of session 2017-19 of B.Ed. programme.

In the next chapter i.e., ***Chapter Three***, description of the research method; population and sample with respect to universities, institutions/colleges of education, principals of colleges of education, teacher educators and pupil teachers; construction and standardization of tools; procedure of data collection and techniques of data analysis are discussed in detail.

CHAPTER III
METHODOLOGY

The present study intended to evaluate the impact of B.Ed. programme (IBP) on pupil teachers (PTs), teacher educators (TEs), principals of colleges of education (PCE), and institutions through the perception of pupil teachers, teacher educators, and principals of colleges of education. So, the sample of the study comprised of pupil teachers, teacher educators, and principals of colleges of education. Therefore, the development of a scale for evaluation of the impact of B.Ed. programme on stakeholders required the appropriate research method for its standardization, tools for data collection, and statistical techniques for data analysis. The present chapter deals with the justification of the research method; sample; tools and procedure of data collection; and statistical techniques used for data analysis in the study.

3.1   RESEARCH METHOD

The present study was evaluative by nature. It was a field study and conducted by using the descriptive survey method and triangulation approach. It involved the collection & analysis of both quantitative and qualitative data. The quantitative data in the present research were collected through scales, and qualitative data were collected through interviews, focused on the impact of B.Ed. programme on pupil teachers, teacher educators, and principals of three types of institutions/colleges of education belonging to the three states i.e. Punjab (PB), Himachal Pradesh (HP), and Haryana (HR). So, the present research was mixed-method research using impact scales and interviews.

The research tried to support quantitative outcomes with qualitative findings and develop an entire understanding of the impact of B.Ed. programme. The collection and analysis of both types of data i.e., quantitative and qualitative; were done simultaneously and independently. The scheme of the mixed-method research used in the present research is shown in figure 3.1.
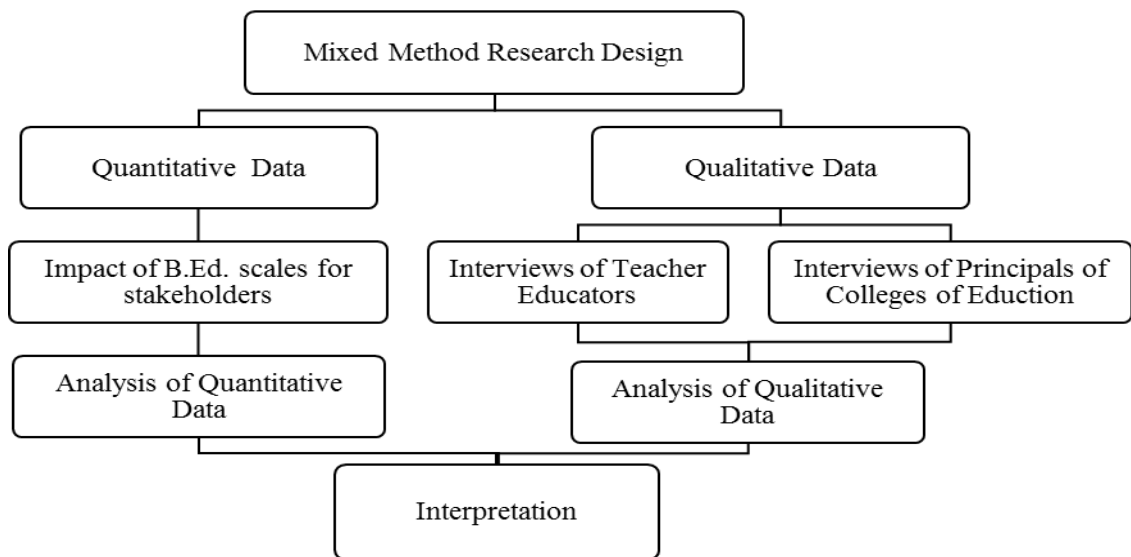
Figure 3.1: Scheme of the Mixed Method Research

3.2   POPULATION

The population of the present study was comprised of pupil teachers (students studying in the final semester of two year B.Ed. programme), teacher educators (teachers appointed in colleges of education and teaching selected pupil teachers), and principals from colleges/departments of education affiliated to universities situated in the states of Punjab, Himachal Pradesh, and Haryana.

3.3   SAMPLE

The sample of the present study comprised of pupil teachers, teacher educators, and principals from institutions/colleges of education located in three northern states of India i.e. Punjab, Himachal Pradesh, and Haryana. The Chandigarh region has been included in the state of Punjab. As the data were to be collected towards the end of the 4th semester (exit phase of B.Ed. programme), it was challenging for the researcher to collect data from Jammu and Kashmir region also because of time paucity as well as other academic and geographical constraints.

In total, 1436 pupil teachers, 120 teacher educators, and 24 principals were selected from 24 institutions/colleges of education affiliated to 7 state universities and 3 private universities situated in Punjab, Himachal Pradesh, and Haryana.

A detailed description of the whole sample is given below:

The sample comprised of ten universities selected through cluster sampling techniques out of which seven were state government universities and three were private universities. The seven state government universities are comprised of three state government universities of Punjab, the three oldest (as per their year of establishment) state government universities from Haryana and, only a single existing state government university of Himachal Pradesh. The three state government universities from Haryana were selected for making equibalance with the number of universities taken from Punjab. In addition to this, three private universities from the states of Punjab and Harayana were also selected for making the comparison with state government universities (Figure 3.2).

The researcher has selected a total of 24 institutions/colleges of educations, 21 institutions were from seven state universities and three institutions were from three private universities, which include three types of institutions i.e. government, grant-in-aid, and self-financed colleges of education, through the stratified random sampling technique (Figure 3.3).

The institution-related information is available with the principals of the institutions. To explore the impact of B.Ed. programme on admissions, institutional resources, workload, experience, financial management, and accreditation, etc. the researcher has selected 24 principals from all the selected institutions based on the stratified random sampling technique (Figure 3.4).

A total of 120 teacher educators (35 were from government colleges, 35 were from grant-in-aid, and 50 were from self-financed colleges of education) having a regular appointment, teaching at least one core paper, and having teaching experience of more than and equal to five years in the college of education were selected through stratified random sampling technique (Figure 3.4).

A sample of 1436 pupil teachers (641 pupil teachers were from Punjab, 223 were from Himachal Pradesh, and 572 were from Haryana) was selected from all three states through the stratified random sampling technique. At the institutional level, 459 pupil teachers were from government institutions, 394 were from grant-in-aid institutions, and 583 were from self-financed institutions (Figure 3.4).
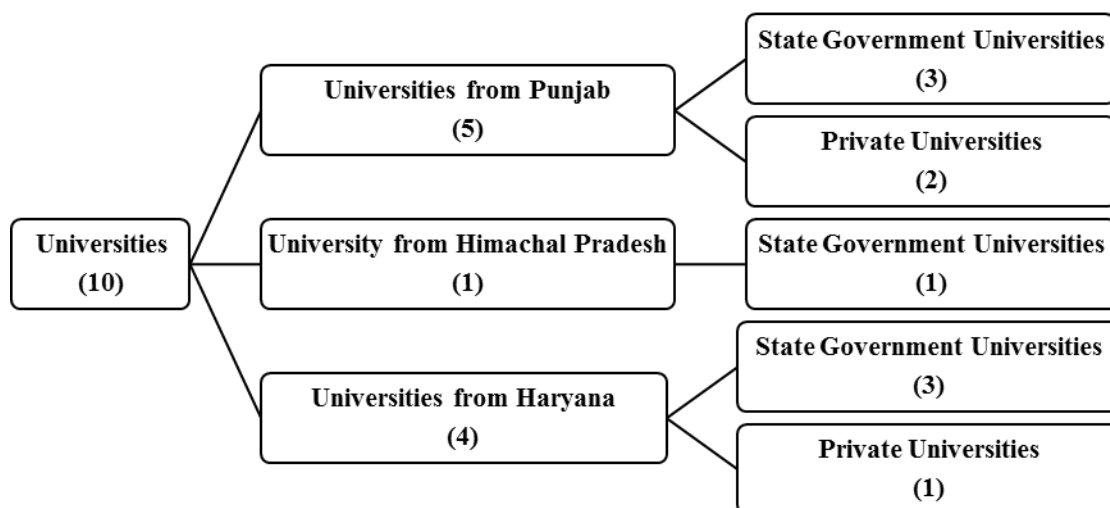
Figure 3.2: Schematic Distribution of Sample with respect to Universities
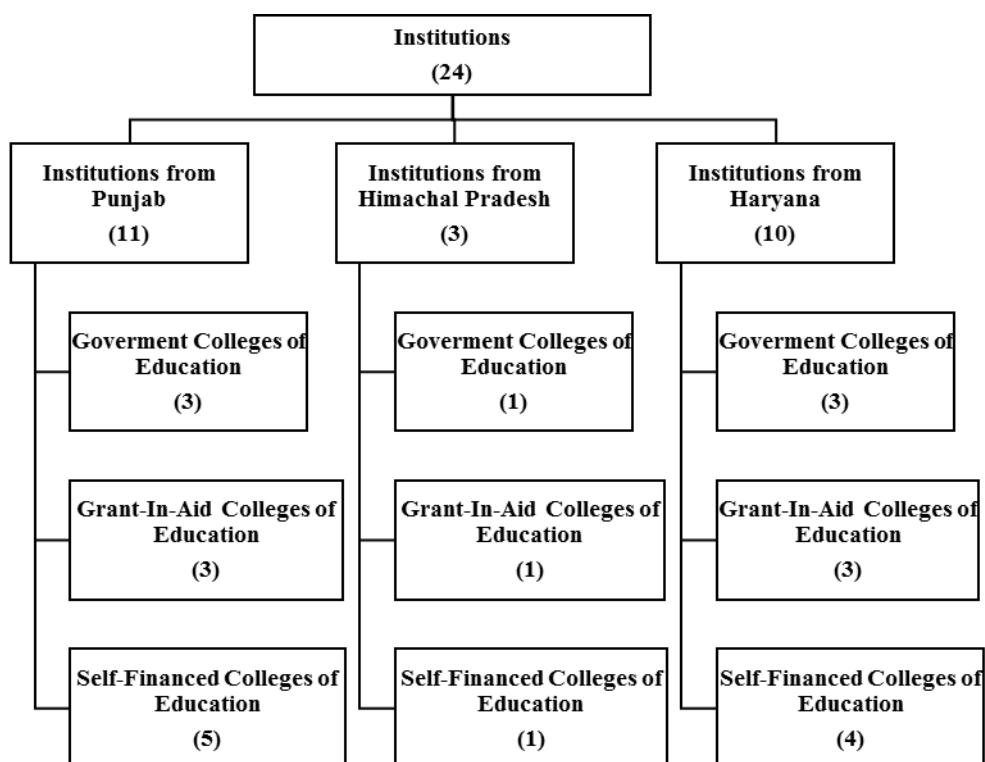
Figure 3.3: Schematic Distribution of Sample with respect to Institutions

Stakeholders (1580)

- **Punjab (707)**
  - **SGU (585)**
    - **GCE (212)** — PCE (3), TEs (15), PTs (194)
    - **GIACE (200)** — PCE (3), TEs (15), PTs (182)
    - **SFCE (173)** — PCE (3), TEs (15), PTs (155)
  - **PU (122)**
    - **SFCE (122)** — PCE (2), TEs (10), PTs (110)
- **Himachal Pradesh (241)**
  - **SGU (291)**
    - **GCE (97)** — PCE (1), TEs (5), PTs (91)
    - **GIACE (56)** — PCE (1), TEs (5), PTs (50)
    - **SFCE (88)** — PCE (1), TEs (5), PTs (82)
- **Haryana (632)**
  - **SGU (586)**
    - **GCE (192)** — PCE (3), TEs (15), PTs (174)
    - **GIACE (180)** — PCE (3), TEs (15), PTs (162)
    - **SFCE (164)** — PCE (3), TEs (15), PTs (146)
  - **PU (46)**
    - **SFCE (46)** — PCE (1), TEs (5), PTs (40)

Figure 3.4: Schematic Distribution of Sample of Stakeholders i.e., Pupil Teachers, Teacher Educators and Principals with respect to State, Universities and Type of Institutions

Note: SGU-State Government University/Universities; PU-Private University/Universities; GCE-Government College/Colleges of Education; GIACE-Grant-In-Aid College/Colleges of Education; SFCE-Self-Financed College/Colleges of Education; PCE-Principals of Colleges of Education; TEs-Teacher Educators and PTs-Pupil Teachers

3.3.1 Sample for Standardization of the Evaluation Scale for Impact of B.Ed. Programme on Pupil Teachers (ESIBP-PTs)

Sample for standardization of the ESIBP-PTs comprised of 98 pupil teachers i.e., 34 pupil teachers from the state of Himachal Pradesh; 33 pupil teachers from the state of Haryana; and 31 pupil teachers from the state of Punjab, studied in the final semester of session 2016-18.

3.3.2 Sample for Standardization of the Evaluation Scale for Impact of B.Ed. Programme on Teacher Educators (ESIBP-TEs)

Sample for standardization of the ESIBP-TEs comprised of 96 teacher educators i.e., 27 teacher educators from the state of Himachal Pradesh; 24 teacher educators from the state of Haryana; and 45 teacher educators from the state of Punjab.

3.3.3 Sample for Standardization of the Evaluation Scale for Impact of B. Ed. Programme Scale for Principals of Colleges of Education (ESIBP-PCE)

Sample for standardization of the ESIBP-PCE comprised of 26 principals of colleges of education i.e., 03 principals of colleges of education from the state of Himachal Pradesh; 10 principals of colleges of education from the state of Haryana; and 13 principals of colleges of education from the state of Punjab.

3.4 TOOLS

The reviewed literature suggested that there was no combined tool or independent tools available to evaluate the impact of two years B.Ed. programme on pupil teachers, teacher educators, principals of colleges of education, and institutes/colleges of education in the Indian context. But, the researcher has found some models like Tyler's Evaluation Model, Kirkpatrick's Evaluation Model, Stufflebeam's CIPP Evaluation Model, Matfessel and Michael's Evaluation Model, Hammond's Evaluation Model, Stake's Responsive Model, Scriven's Goal Free Evaluation Model, and Parlett and Hamilton Model used to evaluate the effectiveness of any programme. The research review analysis suggested that the researcher has used Stufflebeam's CIPP model, consisting of aspects Context, Input, Process, and Product, to evaluate the effectiveness of the education programme.

Therefore, the researcher has modified Stufflebeam's CIPP model as per the Indian context (table 3.1 and figure 3.10).

Besides, this, based on the suggestions/recommendations made by the National Council of Teacher Education (NCTE) and National Curriculum Framework (NCF) for secondary teacher education or B.Ed. programme, the researcher developed the following four scales to evaluate the impact of B.Ed. programme (IBP) on pupil teachers, teacher educators, and principals of colleges of education:

❖ Evaluation Scale for Impact of B.Ed. Programme on Pupil Teachers (ESIBP-PTs).

❖ Evaluation Scale for Impact of B.Ed. Programme on Teacher Educators (ESIBP-TEs)

❖ Evaluation Scale for Impact of B.Ed. Programme on Principals of Colleges of Education (ESIBP-PCE)

❖ Institutional Data Report (IDR) to study the impact of B.Ed. programme on the admission of students, utilization of institutional resources; nature of the post, workload, experience & qualification of teacher educators; financial management and accreditation of the institutions/colleges of education.

3.4.1 Construction of Tools

A detailed description of tools construction is given below:

3.4.1.1 Evaluation Scale for Impact of B.Ed. Programme (ESIBP) on Pupil Teachers, Teacher Educators, and Principals of Colleges of Education

The development of ESIBP for pupil teachers, teacher educators, and principals of colleges of education involved planning and process of scale construction and standardization. The planning phase was concerned with the finalization of all components of scale as highlighted in figure 3.5.
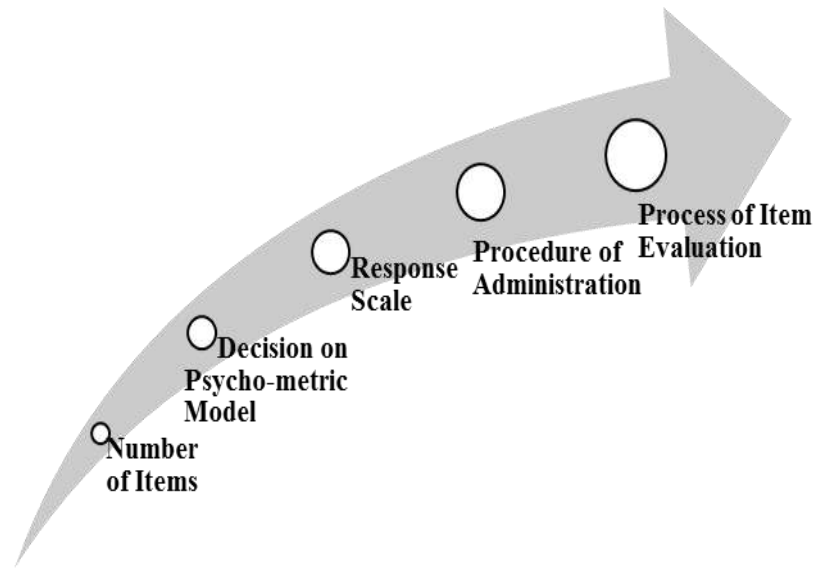
Figure 3.5: Planning of Evaluation Scale Development for Impact of B.Ed. Programme

The iterative and integrated approach of scale construction and standardization was adopted as given by Irwing & Hughes, 2018 (quoted by Kyriazos & Stalikas, 2018). It combined the steps put forward by different scale development approaches. The detailed procedure adopted for scale construction and standardization is presented in figure 3.6.
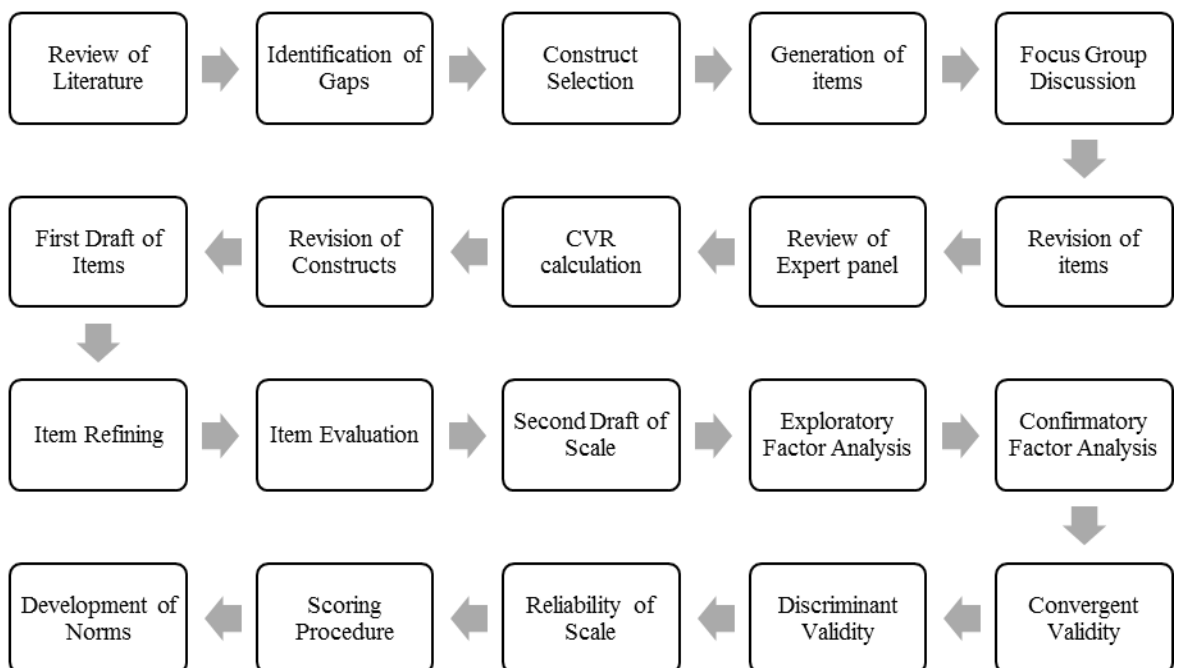
Figure 3.6: Process of Scale Construction and Standardization

A detailed description of the procedure of ESIBP for pupil teachers, teacher educators, and principals of colleges of education development is given below:

Step 1: Purpose and Construct of the Scales

The purpose of the scale construction was to evaluate the impact of B.Ed. programme on pupil teachers, teacher educators, and principals of colleges of education. The available scales have focused on measuring the impact of B.Ed. programme on pupil teachers through pre-test post-test experimental design. Moreover, they generally focused on one year B.Ed. programme and did not emphasize the Context, Input, Process, and Product of B.Ed. programme. There was no scale to measure the impact of two years B.Ed. programme on pupil teachers, teacher educators, and principals of colleges of education with respect to Context, Input, Process and Product concerns of B.Ed. programme through the survey method.

Therefore, new evaluation scales were constructed covering the Context, Input, Process, and Product concerns of B.Ed. programme for pupil teachers, teacher educators, and principals of colleges of education. As a rule, the general purpose of the scale was to evaluate the impact of B.Ed. programme, i.e. Context, Input, Process, and Product concerns/aspects of B.Ed. programme on pupil teachers, teacher educators, and principals of colleges of education.

To study the impact of B.Ed. programme on pupil teachers, teacher educators, and principals of colleges of education; it was considered that the evaluation scales to be constructed would be based on the Stufflebeam's CIPP evaluation model with respect to its four aspects (i) Context, (ii) Input, (iii) Process and (iv) Product in the present study.

The outline of Stufflebeam's CIPP model of Evaluation as applied in the present research is mentioned in table 3.1.

Table 3.1

Application of CIPP Evaluation Model to Evaluate Impact of B.Ed. Programme

Stages of Evaluation	Areas	Procedure	Implications
Context Evaluation	Vision & Mission of NCTE, College of education, Objectives, Programme Expected outcomes, School curriculum, and Contemporary skills	Scale administration and Focused group discussion	Analysis of programme Objectives and stakeholders perceptions
Input Evaluation	Administrative/Management structure, Academic structure, Real Vs. planned/intended curriculum, Qualifications, Resources, and Eligibilities	Scale administration and Focused group discussion	Evaluation programme Design
Process Evaluation	The monitoring programme, Guidelines, Overall quality, Courses and content, Pedagogies, Evaluation procedures, and Critical analysis of all aspects	Monitoring, recording, Scale administration and Focused group discussion	Evaluating the delivery of programme
Product Evaluation	Context, Input & Process relevancy, Performance of students, Success rate, employability, and Terminal competencies	Scale administration, Focused group discussion and Performance assessments	Overall programme evaluation, correction, modification, or termination

The following aspects based on the suggestions/recommendations of the National Council of Teacher Education (NCTE) and National Curriculum Framework (NCF) as well as CIPP model; considered the fundamental which includes in Context, Input, Process, and Product of B.Ed. programme for the construction of evaluation scale for the impact of B.Ed. programme (ESIBP) on pupil teachers, teacher educators, and principals of colleges of education shown in figure 3.7.

Context Evaluation
- Vision and Mission of B.Ed. Programme
- Objectives of B.Ed. Programme
- Entry Behaviour Objectives
- School Education
- 21st century skills

Input Evaluation
- Administrative Structure
- Academic Structure
- Planned/Intended Curriculum
- Qualification
- Resources
- Eligibility
- Admission
- Skills
- Tests

Process Evaluation
- Monitoring Programme Procedures
- Guidelines
- Novelty Programme Quality
- Courses/Content
- Evaluation
- Training/Pedagogies
- Critical Analysis

Product Evaluation
- Context, Input and Process
- Performance of Students
- Readiness for Job and Competitive Exams
- Success Rate

Figure 3.7:   Different Aspects of Impact of B.Ed. Programme for Pupil Teachers, Teacher Educators and Principals of Colleges of Education

The change in the duration of B.Ed. programme since the session 2015 and addition of more field-based courses and corresponding modification in the content of courses have influenced the perception of stakeholders (i.e. Pupil Teachers, Teacher Educators and Principals of Colleges of Education) regarding the impact of B.Ed. programme on them.

Step 2: Response Scale Specifications

The Likert scaling (Likert, 1952) also called as Likert normative scale (Saville & MacIver, 2017) was considered as the response format. The Likert scale with 4 response options labeled as *'Strongly Disagree (SD)', 'Disagree (D)', 'Agree (A)'*, and '*Strongly Agree (SA)'* was used. The purpose of using 4-point scale is that it is best for recording opinions on services/products/programme which the user has used/experienced and to get a specific response from the respondents for the same which are ultimately helpful in providing feedback and improvement of the services/products/programme.

Step 3: Item Generation (Item Pool)

The literature on B.Ed. helped in generating an initial pool of 108 statements (for ESIBP- PTs); 102 statements (for ESIBP-TEs); and 103 statements (for ESIBP-PCE) i.e., First Draft of evaluation scale for the impact of B.Ed. progrmme (ESIBP) on pupil teachers, teacher educators, and principals of colleges of education. The initial pool of items needs to be 2 to 3 times larger than the final scale set (Streiner et al., 2015 & DeVellis, 2017). In item wording, the criteria consisting of clarity, simplicity, specificity, single idea in an item, and brevity (proposed by Barker et al. 2016) was followed. These statements were made suitable for different aspects of two years B.Ed. programme in the Indian context by considering the suggestions/recommendation given by National Curriculum Framework (NCF-2005 and 2009) and National Curriculum Framework for Teacher Education (NCFTE-2010) for B.Ed. programme in India and proposed CIPP model of Programme evaluation.

Focus Group Discussions with Stakeholders

The focus group discussions were held with different stakeholders to identify the contemporary issues of B.Ed. programme. The focus group comprised experts from varied hierarchy levels like pupil teachers, teacher educators, and principals of colleges of education. In such a varied group, the knowledge, experience, and expertise gap among members may inhibit the discussions. So, to seek equal participation in the scale development process, one-to-one in-depth discussions were held with the focus group. The feedback and suggestions received after focus group discussions are given below;

1. The researcher tried to cover various aspects of two years B.Ed. programme in the scales but the scales became too large. So, the number of statements needs to be reduced so that the respondents could feel comfortable in giving their responses. Also, added some open-ended questions (10 to 15 covering various aspects of the B.Ed. programme) for qualitative analysis.

2. Do not include statements related to subjects of B.Ed. course. Reduce No. of statements. Frame statements related to the mission and vision of B.Ed. programme. Include statements related to programme expected outcomes and terminal competencies. Also, do qualitative analyses by including open-ended questions related to the impact of two B.Ed. programme on stakeholders.

3. The scale is too long. Include statements related to the final behaviour of prospective students. Do qualitative analysis also.

4. Decrease the number of statements. Cover important parameter of two years B.Ed. programmes. Add few open-ended questions to measure the effect of B.Ed. programme qualitatively.

5. Include an appropriate number of open-ended questions for qualitative analysis of the impact of two years B.Ed. programme on Teachers, Principals, and Institutions. Use Simple language. Do not write too long statements. Write grammatically correct Statements.

After the focus group discussions, the 108 statements of ESIBP-PTs; 102 statements of ESIBP-TEs; and 103 statements of ESIBP-PCE drafted earlier resulted in 100

statements of ESIBP-PTs; 93 statements of ESIBP-TEs; and 93 statements of ESIBP-PCE on four factors i.e. Context, Input, Process, and Product.

The second draft, consisting of 100 statements of ESIBP-PTs; 93 statements of ESIBP-TEs; and 93 statements of ESIBP-PCE in four factors was given to 7 subject experts at the national level and 2 subject-cum-language experts for reviewing and rating the statements. The observations and suggestions proposed by experts are presented in table 3.2.

Table 3.2

Feedback by Experts

S. No.	Feedback
Expert 1	The scales have been revised as per discussions held earlier with both researcher and the supervisor. The statements related to the mission and vision of B.Ed. programme has been included. Open-ended questions are also planned for teacher educators and principals. Learning outcomes as terminal competencies included. The model used as the base to frame items is also holistic.
Expert 2	The statements have been revised to cover the important parameters as suggested earlier. Qualitative questions are also appropriate.
Expert 3	Qualitative aspects along with quantitative aspects included. The scales are appropriate to further process the research process.
Expert 4	All suggestions incorporated. The statements are as per the model in reference covering context, input, process, and output.
Expert 5	The statements are precise and clear and covering all aspects required for evaluating the B.Ed. programme.
Expert 6	Whatever is discussed with the researcher has been included. All the dimensions are covered. All suggestions are incorporated.
Expert 7	The statements related to training, academic inputs, resources used, community, employability aspects have been included. Qualitative aspects are also included. The tools are properly planned for conducting the present research work
Expert 8	As suggested, grammatical correctness emphasized. The context, input, process, and product dimensions have been covered in the scales. The scale is appropriate to evaluate the 2 years B.Ed. programme.
Expert 9	The statements have been planned with proper care and expertise. Lots of research has been conducted to frame the statements. The model and the statements are in harmony with each other.

Content Validity Ratio (CVR) Calculation

For selecting the most valuable items, the Content Validity Ratio (Lawshe, 1975; Waltz &Bausell, 1981; Lynn, 1986) (quoted by Streiner et al., 2015) was calculated. The experts evaluated the items on 3-point scale (Essential (E) = 3; Useful but need improvement (U) = 2; and Not Necessary (N) = 1).

$$\text{Content Validity Ratio (CVR)} = (n_e - N/2)/N/2$$

Where n_e is the number of experts with a rating of 3 or 4 and N is the total number of experts.

Based on the expert suggestions received and estimation of content validity ratio (CVR), 86 statements of ESIBP-PTs (61 items were retained as such, 25 items were retained with modification and 14 items were deleted); 74 statements of ESIBP-TEs (48 items were retained as such, 26 items were retained with modification and 19 items were deleted); and 75 statements of ESIBP-PCE (51 items were retained as such, 24 items were retained with modification and 18 items were deleted) were finalized.

The statements having CVR$_{critical}$ equal to or more than 0.778 were retained, when the number of experts is 9 (Wilson et. al., 2012). The table showing the values of content validity ratio (CVR) of the evaluation scale for the impact of B.Ed. programme (ESIBP) on pupil teachers, teacher educators, and principals of colleges of education are given in appendices A, F, and L respectively.

The following table 3.3 shows the revised number of statements in different factors of the scale as per the feedback received from different experts.

Table 3.3

Factors with Number of Statements of the ESIBP on Pupil Teachers, Teacher Educators, and Principals of Colleges of Education

Sr. No.	Factors	No. of Statements		
		IBPS-PTs	IBPS-TEs	IBPS-PCE
1.	Context	22	22	22
2.	Input	21	19	21
3.	Process	20	17	17
4.	Product	23	16	15
	Total	86	74	75

Pilot testing of items

The 4 points Likert ESIBP on pupil teachers, teacher educators, and principals of colleges of education consisting of 86 statements; 74 statements; and 75 statements respectively were used to evaluate the impact of B.Ed. programme on pupil teachers (studied in the final semester of session 2016-18), teacher educators, and principals of colleges of education by selecting 98 pupil teachers, 96 teacher educators, and 26 principals of colleges of education from colleges of education of the state of Himachal Pradesh, Haryana, and Punjab. For item refining, the item means, standard deviation, skewness, kurtosis, and item-total correlation were computed. As per standard criteria, the items with a mean less than 2 and greater than 4 (Jang & Roussos, 2007), and items with standard deviation (SD) < 1 should be eliminated (Jackson, 1970). The items with skewness less than 3 (Distefano, 2006) and Kurtosis less than 8 (Barry and Finney, 2008) should be retained. Moreover, item-total correlation should be > 0.25 (Likert, 1932).

Out of 86 statements of ESIBP-PTs, 67 statements fulfilled the criteria of item refining and 19 statements (item number 9 to 13, 16, 20 to 22, 38 to 41, 43, 63, 80, 82, 83, and 85) were deleted; Out of 74 statements of ESIBP-TEs, 61 statements fulfilled the criteria of item refining and 13 statements (item number 9 to 13, 16, 20 to 22, 38 to 40 and 58) were deleted; and Out of 75 statements of ESIBP-PCE, 59 statements fulfilled the criteria of item refining and 16 statements (item number 9 to 13, 16, 20 to 22, 38 to 41, 43, 60 and 70)were deleted. So, these 67 statements of ESIBP-PTs; 61 statements of ESIBP-TEs; and 59 statements of ESIBP-PCE were further subjected to item evaluation using an independent sample t-test.

Step 4: Item Evaluation

The total scores of all 67 statements of ESIBP-PTs; 61 statements of ESIBP-TEs; and 59 statements of ESIBP-PCE were arranged in ascending order and the scores of upper and lower 27% of data were taken. The significance of the difference between means of each item was calculated using independent samples of t-test (Edward and Kilpatrck, 1948). The independent t-test was computed by using a statistical package for social sciences (SPSS) & items having p-values < 0.05/0.01 showed that there

exists a difference in the upper and lower group. Fifty-seven (57) statements of ESIBP-PTs; fifty-four (54) statements of ESIBP-TEs; and fifty-one (51) statements of ESIBP-PCE were having p-values < 0.01. So, fifty-seven (57) statements of ESIBP-PTs; fifty-four (54) statements of ESIBP-TEs; and fifty-one (51) statements of ESIBP-PCE were retained and ten (10) statements of ESIBP-PTs; seven (07) statements of ESIBP-TEs and eight (08) statements of ESIBP-PCE were dropped from the scales. The details of p-values for pupil teachers, teacher educators, and principals of colleges of education are given in appendices B, G, and M respectively. Based on expert suggestions, content validity ratio (CVR), pilot testing, and item evaluation the second draft of the scale was prepared. The details of assumed factors and the number of statements for ESIBP-PTs, ESIBP-TEs, and ESIBP-PCE are given in tables 3.4 to 3.6.

Table 3.4

Third Draft of the ESIBP-PTs

S. No.	Factors	No. of Statements	Total Statements
1.	Context	1-8	08
2.	Input	9-22	14
3.	Process	23-41	19
4.	Product	42-57	16
Total			57

The second draft of ESIBPS-PTs consists of 57 statements grouped under 4 factors.

Table 3.5

Third Draft of the ESIBP-TEs

S. No.	Factors	No. of Statements	Total Statements
1.	Context	1-8	08
2.	Input	9-22	14
3.	Process	23-38	16
4.	Product	39-54	16
Total			54

The second draft of IBPS-TEs consists of 54 statements grouped under 4 factors.

Table 3.6

Third Draft of the ESIBP-PCE

S. No.	Factors	No. of Statements	Total Statements
1.	Context	1-8	08
2.	Input	9-23	15
3.	Process	24-39	16
4.	Product	40-51	12
Total			51

The second draft of ESIBPS-PCE consists of 51 statements grouped under 4 factors.

Step 5: Dimensionality of the Scales

The dimensionality of the scales was examined through Exploratory Factor Analysis and Confirmatory Factor Analysis (Furr, 2011; Singh et al. 2016). The detailed description is presented below.

Exploratory Factor Analysis

The ESIBPS-PTs consisting of 57 statements were subjected to a data reduction technique to form dimensions/factors through exploratory factor analysis (EFA). Before performing exploratory factor analysis (EFA), the Kasier Meyer-Olkin (KMO) test for sample adequacy (Kaiser, 1958) and Barlett test of Sphericity for factorability (Bartlett, 1954) was performed to test the adequacy of data for exploratory factor analysis. The results indicated Kasier Meyer-Olkin (KMO), Measure of Sample Adequacy (MSA) was found to be for 0.753 for Context; 0.841 for Input; 0.841 for Process; and 0.893 for Product of B.Ed. Programme depicting that the sample is adequate for further analysis as the obtained value is greater than the critical value i.e. 0.6 (Tatachnick & Fidell, 1996) and Bartlett's test of Sphericity revealed a satisfactory significant number of correlations among variable with $\chi^2 = 168.31$(p = 0.00) for Context; χ^2=483.29 (p = 0.00) for Input; $\chi^2 = 880.22$ (p = 0.00) for Process; and $\chi^2 = 801.84$ (p = 0.00) for Product of B.Ed. programme indicating that the sample is suitable for structure detection. So, finally, 57 items converged in rotation with 75% of total variance i.e. 50.91% of total variance for Context; 63.41% of total variance for Input; 65.86% of total variance for Process; and 62% of total variance for Product of B.Ed. Programme (>50%; Russel, 2000) in 14 dimensions. These were Mission & Vision (MV) and Programme Objectives (PO); Academic Inputs (AI), Resource

Inputs (RI), Training Inputs (TI) and Professional Inputs (PI); Curriculum Transaction Process (CTP), Professional Process (PP), Teaching Process (TP), Academic Process (AP) and Evaluation Process (EP); and Professional Competencies Product (PCPr), Inclusive Competencies Product (ICPr), and Teaching & Evaluation Competencies Product (TECPr). The final results of exploratory factor analysis (EFA) for pupil teachers are summarized in Appendix C.

The ESIBPS-TEs consisting of 54 statements were subjected to a data reduction technique to form dimensions/factors through exploratory factor analysis (EFA). Before performing exploratory factor analysis (EFA), the Kasier Meyer-Olkin (KMO) test for sample adequacy (Kaiser, 1958) and Barlett test of Sphericity for factorability (Bartlett, 1954) was performed to test the adequacy of data for exploratory factor analysis. The results indicated Kasier Meyer-Olkin (KMO), Measure of Sample Adequacy (MSA) was found to be for 0.888 for Context; 0.855 for Input; 0.885 for Process; and 0.820 for Product of B.Ed. Programme depicting that the sample is adequate for further analysis as the obtained value is greater than the critical value i.e. 0.6 (Tatachnick & Fidell, 1996) and Bartlett's test of Sphericity revealed a satisfactory significant number of correlations among variable with $\chi^2 = 351.06$ (p = 0.00) for Context; $\chi^2 = 536.78$ (p = 0.00) for Input; $\chi^2 = 785.79$ (p = 0.00) for Process; and $\chi^2 = 627.44$ (p = 0.00) for Product of B.Ed. programme indicating that the sample is suitable for structure detection. So, finally, 54 items converged in rotation with 77.73% of total variance i.e., 65.73% of total variance for Context; 71.60% of total variance for Input; 65.65% of total variance for Process; and 61.82% of total variance for Product of B.Ed. Programme (>50%; Russel, 2000) in 16 dimensions. These were Mission & Vision (MV) and Programme Objectives (PO); Academic Inputs (AI), Training Inputs (TI), Resource Inputs (RI), Professional Inputs (PI) and Evaluation Inputs (EI); Pedagogical Process Process (PDP), Evaluation Process (EP), Professional Process (PP) and Training Process (TP); and Academics & Non-Academic Responsibilities Product (ANARPr), Resource ConsultationProduct (RCPr), Professional Training Product (PTPr), Evaluation Responsibilities Product (ERPr) and Social Responsibilities Product (SRPr). The final results of exploratory factor analysis (EFA) for teacher educators are summarized in appendix H.

The ESIBP-PCE consisting of 51 statements was subjected to a data reduction technique to form dimensions/factors through exploratory factor analysis (EFA). Before performing exploratory factor analysis (EFA), the Kasier Meyer-Olkin (KMO) test for sample adequacy (Kaiser, 1958) and Barlett test of Sphericity for factorability (Bartlett, 1954) was performed to test the adequacy of data for exploratory factor analysis. The results indicated Kasier Meyer-Olkin (KMO), Measure of Sample Adequacy (MSA) was found to be for 0.714 for Context; 0.697 for Input; 0.655 for Process; and 0.638 for Product of B.Ed. Programme depicting that the sample is adequate for further analysis as the obtained value is greater than the critical value i.e. 0.6 (Tatachnick & Fidell, 1996) and Bartlett's test of Sphericity revealed a satisfactory significant number of correlations among variable with $\chi^2 = 96.23$ (p = 0.00) for Context; $\chi^2 = 260.35$ (p = 0.00) for Input; $\chi^2 = 332.13$ (p = 0.00) for Process; and $\chi^2 = 219.04$ (p = 0.00) for Product of B.Ed. programme indicating that the sample is suitable for structure detection. So, finally, 51 items converged in rotation with 72% of total variance i.e., 67.20% of total variance for Context; 78.57% of total variance for Input; 77.68% of total variance for Process; and 78.51% of total variance for Product of B.Ed. Programme (>50%; Russel, 2000) in 12 dimensions. These were Mission & Vision (MV) and Programme Objectives (PO); Academic and Evaluation Inputs (AEI), Resource Inputs (RI), Training Inputs (TI) and Professional Inputs (PI); Administrative and AcademicProcess (AAP), Professional Process (PP) and Training & Evaluation Process (TEP); and Administrative Product (APr), Managerial Product (MPr), and Training Product (TPr). The final results of exploratory factor analysis (EFA) for principals of colleges of education are summarized in appendix N.

Confirmatory Factor Analysis

The confirmatory factor analysis (CFA) was applied using analysis of a moment structures (AMOS) 23.0 statistical software to evaluate the measurement model validity of the proposed model of ESIBP-PTs, ESIBP-TEs, and ESIBP-PCE. Following Brown's recommendations, the following categories of fit indices were considered: absolute fit (Chi-Square Goodness-of-Fit [χ^2], Standardized Root Mean Square Residual (SRMR)); Parsimony-Corrected Fit (Root Mean Square Error of

Approximation [RMSEA]), and Comparative Fit (Tucker-Lewis Fit Index [TLI], Comparative Fit Index [CFI]). The following cut-off values were used to indicate model fit: $\chi^2 < 3$ with $\flat > 0.05$; TLI & CFI ≥ 0.90, RMSEA ≤ 0.05, goodness of fit index (GFI) > 0.80 and adjusted goodness of fit index (AGFI) > 0.90. The results of fit indices are given below in tables 3.7 to 3.9.

Table 3.7

Model Fit Indices for ESIBP-PTs

Measure Calculated Values for	CMIN/df	GFI	AGFI	TLI	CFI	RMESA
Context	0.742 (p=0.654)	0.980	0.949	1.033	1.000	0.000
Input	1.354 (p=0.128)	0.944	0.879	0.945	0.968	0.030
Process	1.293 (p=0.128)	0.920	0.845	0.962	0.976	0.028
Product	1.800 (p=0.134)	0.958	0.852	0.916	0.966	0.002
Threshold Values	< 3 (p > 0.05)	>0.90	>0.80	>0.90	>0.90	<0.05

Table 3.8

Model Fit Indices for ESIBP-TEs

Measure Calculated Values for	CMIN/df	GFI	AGFI	TLI	CFI	RMESA
Context	1.525 (p=0.660)	0.926	0.860	0.956	0.970	0.034
Input	1.233 (p=0.199)	0.937	0.881	0.972	0.981	0.049
Process	1.626 (p=0.065)	0.919	0.822	0.928	0.960	0.041
Product	1.597 (p=0.060)	0.931	0.847	0.922	0.956	0.039
Threshold Values	<3 (p > 0.05)	>0.90	>0.80	>0.90	>0.90	<0.05

Table 3.9

Model Fit Indices for ESIBP-PCE

Measure Calculated Values for	CMIN/df	GFI	AGFI	TLI	CFI	RMESA
Context	0.701 (p=0.402)	0.986	0.864	0.956	1.000	0.006
Input	2.192 (p=0.199)	0.937	0.881	0.972	0.981	0.049
Process	1.184 (p=0.195)	0.969	0.829	0.941	0.956	0.043
Product	1.662 (p=0.075)	0.944	0.844	0.982	0.938	0.013
Threshold Values	<3 (p > 0.05)	>0.90	>0.80	>0.90	>0.90	<0.05

Convergent Validity and Discriminant Validity

Further, the construct validity of the scales (ESIBP-PTs, ESIBP-TEs, and ESIBP-PCE) was assessed through its main components i.e. convergent validity and discriminant validity.

Convergent validity was evaluated through an assessment of item factor loadings and their statistical significance, followed by an assessment of dimensions'/factors' average variance extracted (AVE) and construct reliabilities (CR).

Convergent validity was indicated by an item factor loading ≥ 0.5 and þ < 0.05 (Hair, Black, Babin& Anderson, 2009), AVE ≥ 0.5, and CR ≥ 0.7 (Fornell & Larcker, 1981). The average variance extracted (AVE) and construct reliabilities (CR) values for ESIBP-PTs were calculated as per the equation given by Fornell & Larcker (1981) and are given in table 3.10.

Table 3.10

Convergent Validity indicating Factor Loadings, Average Variance Extracted (AVE), and Construct Reliabilities (CR) for ESIBPS-PTs

Factors	Dimensions	AVE	CR
Context	Mission & Vision (MV)	0.52	0.80
	Programme Objectives (PO)	0.57	0.73
Input	Academic Inputs (AI)	0.55	0.85
	Resource Inputs (RI)	0.61	0.86
	Training Inputs (TI)	0.56	0.79
	Professional Inputs (PI)	0.54	0.76
Process	Curriculum Transaction Process (CTP)	0.53	0.88
	Professional Process (PP)	0.65	0.90
	Teaching Process (TP)	0.59	0.74
	Academic Process (AP)	0.81	0.90
Process	Evaluation Process (EP)	0.52	0.77
Product	Professional Competencies Product (PCPr)	0.66	0.92
	Inclusive Competencies Product (ICPr)	0.62	0.78
	Teaching & Evaluation Competencies Product (TECPr)	0.62	0.79

Therefore, all the 57 items subjected to confirmatory factor analysis (CFA) were retained. All items are having average variance extracted (AVE) for all dimensions/factors > 0.5.

The statements coming under the same dimension/factor are further grouped in serial order in the final scale. So, the final scale consisted of 57 items distributed in 14

dimensions and 4 factors (Appendix - D). The details are presented below in table 3.11.

Table 3.11

Factor and Dimensionwise Distribution of Items in ESIBP-PTs

Factors	Dimensions	The old order of Statements	The new order of Statements	Total Statements
Context	MV	1-3, 8	1-4	4
	PO	4-7	5-8	4
Input	AI	1-3	1-3	3
	RI	4-6	4-6	3
	TI	7-11, 14	7-12	6
	PI	12,13	13-14	2
Process	CTP	1, 5-7, 10-12	1-7	7
	PP	2, 13, 18, 19	8-11	4
	TP	9, 14, 15	12-14	3
	AP	16, 17	15-16	2
	EP	3, 4, 8	17-19	3
Product	PCPr	1, 4-7, 10-11, 15	1-8	8
	ICPr	2, 3	9-10	2
	TECPr	8, 9, 12-14, 16	11-16	6

The description of ESIBP-PTs from preliminary draft to final draft is presented in table 3.12.

Table 3.12

Details of Scale Construction and Standardization for ESIBP-PTs

Draft	Process	Factors	Dimensions	Total Statements
First	Review	Pool of items	-	108
Second	Focus Group Discussion	4	-	100
	CVR	4	-	86
	Item refining	4	-	67
Third	Item Evaluation	4	-	57
	EFA	4	14	57
Final	CFA	4	14	57

The average variance extracted (AVE) and construct reliabilities (CR) values for ESIBP-TEs were calculated as per the equation given by Fornell & Larcker (1981) and are given in table 3.13.

Table 3.13

Convergent Validity indicating Factor Loadings, Average Variance Extracted (AVE), and Construct Reliabilities (CR) for ESIBPS-TEs

Factors	Dimensions	AVE	CR
Context	Mission & Vision (MV)	0.76	0.92
	Programme Objectives (PO)	0.59	0.85
Input	Academic Inputs (AI)	0.66	0.92
	Training Inputs (TI)	0.73	0.84
	Resource Inputs (RI)	0.55	0.78
	Professional Inputs (PI)	0.66	0.85
	Evaluation Inputs (EI)	0.63	0.77
Process	Pedagogical Process Process (PDP)	0.63	0.89
	Evaluation Process (EP)	0.60	0.82
	Professional Process (PP)	0.67	0.82
	Training Process (TP)	0.60	0.74
Product	Academics & Non-Academic Responsibilities Product (ANARPr)	0.84	0.90
	Resource ConsultationProduct (RCPr)	0.72	0.84
	Professional Training Product (PTPr)	0.67	0.79
	Evaluation Responsibilities Product (ERPr)	0.63	0.77
	Social Responsibilities Product (SRPr)	0.52	0.72

Therefore, all the 54 items subjected to confirmatory factor analysis (CFA) were retained. All items are having average variance extracted (AVE) for all dimensions/factors > 0.5. The statements coming under the same dimension/factor are further grouped in serial order in the final scale. So, the final scale consisted of 54 items distributed in 16 dimensions and 4 factors (Appendix - J). The details are presented below in table 3.14.

Table 3.14
Factor and Dimensionwise Distribution of Items in ESIBPS-TEs

Factors	Dimensions	The old order of Statements	The new order of Statements	Total Statements
Context	MV	1-3, 8	1-4	4
	PO	4-7	5-8	4
Input	AI	1-2	1-2	2
	TI	3,6-9	3-7	5
	RI	4-5	8-9	2
	PI	10-12	10-12	3
	EI	13-14	13-14	2
Process	PDP	1, 2, 6, 7, 14	1-5	5
	EP	3.5	6.8	3
	PP	8-10, 15-16	9-13	5
	TP	11-13	14-16	3
Product	ANARPr	1, 2, 6, 10, 12, 14	1-6	6
	RCPr	3, 7, 11	7-9	3
	PTPr	4, 5, 15	10-12	3
	ERPr	8, 16	13-14	2
	SRPr	9, 13	15-16	2

The description of ESIBP-TEs from preliminary draft to final draft is presented in table 3.15.

Table 3.15

Details of Scale Construction and Standardization for ESIBP-TEs

Draft	Process	Factors	Dimensions	Total Statements
First	Review	Pool of items	-	102
Second	Focus Group Discussion	4	-	93
	CVR	4	-	74
	Item refining	4	-	61
Third	Item Evaluation	4	-	54
	EFA	4	16	54
Final	CFA	4	16	54

The average variance extracted (AVE) and construct reliabilities (CR) values for ESIBP-PCE were calculated as per the equation given by Fornell & Larcker (1981) and are given in table 3.16.

Table 3.16

Convergent Validity indicating Factor Loadings, Average Variance Extracted (AVE), and Construct Reliabilities (CR) for ESIBPS-PCE

Factors	Dimensions	AVE	CR
Context	Mission & Vision (MV)	0.66	0.84
	Programme Objectives (PO)	0.62	0.89
Input	Academic & Evaluation Inputs (AEI)	0.64	0.90
	Resource Inputs (RI)	0.76	0.93
	Training Inputs (TI)	0.58	0.78
	Professional Inputs (PI)	0.56	0.72
Process	Administrative & Academic Process (AAP)	0.79	0.95
	Professional Process (PP)	0.80	0.94
	Training & Evaluation Process (TEP)	0.85	0.92
Product	Administrative Product (APr)	0.75	0.89
	Managerial Product (MPr)	0.88	0.93
	Training Product (TPr)	0.89	0.94

Therefore, all the 51 items subjected to confirmatory factor analysis (CFA) were retained. All items are having average variance extracted (AVE) for all dimensions/factors > 0.5. The statements coming under the same dimension/factor are further grouped in serial order in the final scale. So, the final scale consisted of 51 items distributed in 12 dimensions and 4 factors (Appendix - P). The details are presented below in table 3.17.

Table 3.17

Factor and Dimensionwise Distribution of Items in ESIBPS-PCE

Factors	Dimensions	The old order of Statements	The new order of Statements	Total Statements
Context	MV	1-3, 8	1-4	4
	PO	4-7	5-8	4
Input	AEI	1-3, 14-15	1-5	5
	RI	4-6	6-8	3
	TI	7-10	9-12	4
	PI	11- 13	13-15	3

Factors	Dimensions	The old order of Statements	The new order of Statements	Total Statements
Process	AAP	1, 2, 8, 16	1-4	4
	PP	3, 4, 6, 14	5-8	4
	TEP	5, 7, 9-13, 15	9-16	8
Product	APr	1-2, 4, 6-7	1-5	5
	MPr	3, 5, 8	6-8	3
	TPr	9-12	9-12	4

The description of IBPS-PCE from preliminary draft to final draft is presented in table 3.18.

Table 3.18

Details of Scale Construction and Standardization for ESIBP-PCE

Draft	Process	Factors	Dimensions	Total Statements
First	Review	Pool of items	-	103
Second	Focus Group Discussion	4	-	93
	CVR	4	-	75
	Item refining	4	-	59
Third	Item Evaluation	4	-	51
	EFA	4	12	51
Final	CFA	4	12	51

Discriminant Validity (DV) measure is the extent to which a construct is truly distinct from other constructs and is measured by calculating the square root of average variance extracted (AVE) for each construct which should be greater than the correlation of any pair of latent constructs (Chin, 1998) and ≥ 0.50 (Fornell & Larcker, 1981).

The discriminant validity of ESIBP-PTs, ESIBP-TEs, and ESIBP-PCE was also established and values of discriminant validity for various dimensions (construct) corresponding to the factors Context, Input, Process, and Product of ESIBP-PTs, ESIBP-TEs, and ESIBP-PCE are shown in tables 3.19 to 3.30.

Table 3.19

Discriminant Validity for Various Dimensions Corresponding to the Factor

Context of ESIBP-PTs

Dimensions/Constructs	MV	PO
Mission & Vision (MV)	**0.72**	-
Programme Objectives (PO)	0.66	**0.76**

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

Table 3.20

Discriminant Validity for Various Dimensions Corresponding to the Factor

Input of ESIBP-PTs

Dimensions/Constructs	AI	RI	TI	PI
Academic Inputs (AI)	**0.74**	-	-	-
Resource Inputs (RI)	0.728	**0.78**	-	-
Training Inputs (TI)	0.72	0.75	**0.75**	-
Professional Inputs (PI)	0.46	0.63	0.47	**0.73**

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

Table 3.21

Discriminant Validity for Various Dimensions Corresponding to the Factor
Process of ESIBP-PTs

Dimensions/Constructs	CTP	PP	TP	AP	EP
Curriculum Transaction Process (CTP)	**0.73**	-	-	-	-
Professional Process (PP)	0.62	**0.81**	-	-	-
Teaching Process (TP)	0.63	0.38	**0.77**	-	-
Academic Process (AP)	0.72	0.65	0.41	**0.90**	-
Evaluation Process (EP)	0.69	0.68	0.52	0.75	**0.72**

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

Table 3.22

Discriminant Validity for Various Dimensions Corresponding to the Factor
Product of ESIBP-PTs

Dimensions/Constructs	PCPr	ICPr	TECPr
Professional Competencies Product (PCPr)	**0.82**	-	-
Inclusive Competencies Product (ICPr)	0.71	**0.76**	-
Teaching & Evaluation Competencies Product (TEPr)	0.81	0.72	**0.79**

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

Table 3.23

Discriminant Validity for Various Dimensions Corresponding to the Factor Context of ESIBP-TEs

Dimensions/Constructs	MV	PO
Mission & Vision (MV)	**0.87**	-
Programme Objectives (PO)	0.86	**0.77**

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

Table 3.24

Discriminant Validity for Various Dimensions Corresponding to the Factor Input of ESIBP-TEs

Dimensions/Constructs	AI	TI	RI	PI	EI
Academic Inputs (AI)	**0.82**	-	-	-	-
Training Inputs (TI)	0.74	**0.85**	-	-	-
Resource Inputs (RI)	0.76	0.77	**0.75**	-	-
Professional Inputs (PI)	0.75	0.71	0.68	**0.81**	-
Evaluation Inputs (EI)	0.63	0.50	0.66	0.70	**0.79**

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

Table 3.25

Discriminant Validity for Various Dimensions Corresponding to the Factor Process of ESIBP-TEs

Dimensions/Constructs	CTP	PP	TP	AP	EP
Pedagogical Process Process (PDP)	**0.79**	-	-	-	-
Evaluation Process (EP)	0.75	**0.77**	-	-	-
Professional Process (PP)	0.59	0.53	**0.82**	-	-
Training Process (TP)	0.73	0.63	0.80	**0.77**	-

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

Table 3.26

Discriminant Validity for Various Dimensions Corresponding to the Factor Product of ESIBP-TEs

Dimensions/Constructs	ANARPr	RCPr	PTPr	ERPr	SRPr
Academics & Non-Academic Responsibilities Product (ANARPr)	**0.92**	-	-	-	-
Resource Consultation Product (RCPr)	0.73	**0.85**	-	-	-
Professional Training Product (PTPr)	0.70	0.57	**0.82**	-	-
Evaluation Responsibilities Product (ERPr)	0.61	0.65	0.80	**0.79**	-
Social Responsibilities Product (SRPr)	0.60	0.79	0.54	0.67	**0.72**

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

Table 3.27

Discriminant Validity for Various Dimensions Corresponding to the Factor Context of ESIBP-PCE

Dimensions/Constructs	MV	PO
Mission & Vision (MV)	**0.81**	-
Programme Objectives (PO)	0.78	**0.77**

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

Table 3.28

Discriminant Validity for Various Dimensions Corresponding to the Factor Input of ESIBP-PCE

Dimensions/Constructs	AEI	RI	TI	PI
Academic and Evaluation Inputs (AEI)	**0.80**	-	-	-
Resource Inputs (RI)	0.77	**0.87**	-	-
Training Inputs (TI)	0.79	0.73	**0.76**	-
Professional Inputs (PI)	0.59	0.64	0.60	**0.75**

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

Table 3.29

Discriminant Validity for Various Dimensions Corresponding to the Factor Process of ESIBP-PCE

Dimensions/Constructs	AAP	PP	TEP
Administrative & AcademicProcess (AAP)	**0.887**	-	-
Professional Process (PP)	0.535	**0.894**	-
Training & Evaluation Process (TEP)	0.551	0.552	**0.92**

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

Table 3.30

Discriminant Validity for Various Dimensions Corresponding to the Factor Product of ESIBP-PCE

Dimensions/Constructs	PCPr	ICPr	TECPr
Administrative Product (APr)	**0.87**	-	-
Managerial Product (MPr)	0.75	**0.94**	-
Training Product (TPr)	0.67	0.64	**0.946**

Note: (DV = Square Root of AVE > Correlation of construct with other constructs)

The bold values in tables 3.19 to 3.30 above indicated the square root of all average variance extracted (AVEs). These values are greater than the correlation between different dimensions/constructs. Also, all these values of the square root of average

variance extracted (AVE) are > 0.5, thereby, discriminating each construct from the other construct.

The convergent and discriminant validity (tables 3.10, 3.13, 3.16, and 3.19 to 3.30) shows that all the constructs of the scales met with all critical values. So, the ESIBP-PTs, ESIBP-TEs, and ESIBP-PCE acquired good construct validity on the selected standardization sample.

Internal Consistency

The internal consistency of the scale was estimated by interpreting the calculated value of Cronbach's alpha (α) & split method reliability (odd and even method or Spearman-Brown Prophecy formula (SBP)). According to Gliem and Gliem (2003) reliability coefficient ranges from 0 to 1. However, closer to the value of 'α' to 1 greater will be the internal consistency of the scale. For the present scales, i.e. ESIBP-PTs, ESIBP-TEs, and ESIBP-PCE, reliability coefficients are given in tables 3.31 to 3.33 below:

Table 3.31

Factor wise, Dimension wise and Overall Coefficient of Reliability of ESIBP-PTs

Factors/Dimensions/Overall	Cronbach α	Split Half Reliability (SBP)
Context	.759	.785
Input	.870	.896
Process	.905	.918
Product	.919	.925
Overall	.961	.968

Table 3.32

Factor wise, Dimension wise and Overall Coefficient of Reliability of ESIBP-TEs

Factors/Dimensions/Overall	Cronbach α	Split Half Reliability (SBP)
Context	.880	.917
Input	.885	.906
Process	.922	.947
Product	.870	.865
Overall	.961	.969

Table 3.33

Factor wise, Dimension wise and Overall Coefficient of Reliability of ESIBP-PCE

Factors/Dimensions/Overall	Cronbach α	Split Half Reliability (SBP)
Context	.823	.828
Input	.893	.932
Process	.931	.953
Product	.712	.800
Overall	.941	.942

Therefore, table 3.31 to 3.33 indicated that all values of reliability coefficient (calculated by using Cronbach alpha and split-half reliability method) for factors wise, dimension wise and overall in case of ESIBP-PTs, ESIBP-TEs, and ESIBP-PCE are good and very good. Hence, the ESIBP-PTs, ESIBP-TEs, and ESIBP-PCE possess good internal consistency.

Step 6: Norm

The instructions for administration & scoring for ESIBP-PTs, ESIBP-TEs, and ESIBP-PCE were developed and mentioned below:

ESIBP-PTs, ESIBP-TEs, and ESIBP-PCE are 4 point Likert scales developed to evaluate the impact of B.Ed. programme on Pupil Teachers, Teacher Educators, and Principals of Colleges of Education through their experiences and perceptions.

- The statements ranging from 1-8 are concerning with the factor Context (i.e., statements MV_{1-4} and PO_{5-8} of dimension mission & vision (MV) and programme objectives (PO) respectively) of B.Ed. programme in ESIBP-PTs, ESIBP-TEs, and ESIBP-PCE.

- The statements ranging from 1-14 are concerning with the factor Input (i.e., statements AI_{1-3}; RI_{4-6}; TI_{7-12}; and PI_{13-14} of dimensions Academic Inputs (AI); Resource Inputs (RI); Training Inputs (TI), and Professional Inputs (PI) respectively) of B.Ed. programme in case of ESIBP-PTs; the statements ranging from 1-14 are concerning with the factor Input (i.e., statements AI_{1-2}; TI_{3-7}; RI_{8-9}; PI_{10-12} and EI_{13-14} of dimensions Academic Inputs (AI); Training Input (TI); Resource Inputs (RI); Professional Inputs (PI); and Evaluation

Inputs (EI) respectively) of B.Ed. programme in case of ESIBP-TEs; and the statements ranging from 1-15 are concerning with the factor Input (i.e. statements AEI_{1-5}; RI_{6-8}; TI_{9-12} and PI_{13-15} of dimensions Academic & Evaluation Inputs (AEI); Resource Inputs (RI); Training Inputs (TI); and Professional Inputs (PI) respectively) of B. Ed. programme in case of ESIBPS-PCE.

- The statements ranging from 1-19 are concerning with the factor Process (i.e., statements CTP_{1-7}; PP_{8-11}; TP_{12-14}; AP_{15-16}; and EP_{17-19} of dimensions Curriculum Transaction Process (CTP); Professional Process (PP); Teaching Process (TP); Academic Process (AP); and Evaluation Process (EP) respectively) of B.Ed. programme in case of ESIBP-PTs; the statements ranging from 1-16 are concerning with the factor Process (i.e., statements PDP_{1-5}; EP_{6-8}; PP_{9-13}; and TP_{14-16} of dimensions Pedagogical Process (PDP); Evaluation Process (EP); Professional Process (PP); and Training Process (TP) respectively) of B. Ed. programme in case of ESIBP-TEs; and the statements ranging from 1-16 are concerning with the factor Process (i.e., statements AAP_{1-4}; PP_{5-8}; and TEP_{9-16} of dimensions Administrative & Academic Process (APP); Professional Process (PP); and Training & Evaluation Process (TEP) respectively) of B. Ed. programme in case of ESIBP-PCE.

- The statements ranging from 1-16 are concerning with the factor Product (i.e., statements $PCPr_{1-8}$; $ICPr_{9-10}$; and $TECPr_{11-16}$ of dimensions Professional Competencies Product (PCPr); Inclusive Competencies Product (ICPr); and Teaching & Evaluation Competencies Product (TECPr) respectively) of B.Ed. programme ESIBP-PTs; the statements ranging from 1-16 are concerning with the factor Product (i.e., statements $ANARPr_{1-6}$; $RCPr_{7-9}$; $PTPr_{10-12}$; $ERPr_{13-14}$; and $SRPr_{15-16}$ of dimensions Academics & Non-Academic Responsibilities Product (ANARPr); Resource Consultation Product (RCPr); Professional Training Product (PTPr); Evaluation Responsibilities Product (ERPr) and Social Responsibilities Product (SRPr) respectively) of B. Ed. programme in case of IBPS-TEs; and the statements ranging from 1-12 are concerning with the factor Product (i.e., statements APr_{1-5}; MPr_{6-8}; and TPr_{9-12} of dimensions

Administrative Product (APr); Managerial Product MPr; and Training Product (TPr) respectively) of B. Ed. programme in case of ESIBP-PCE.

- Tick (√) in the appropriate box against each statement below the options i.e., *strongly disagree (SD), disagree (D), agree (A),* and *strongly agree (SA)* as per your experience and perception.

Scoring

ESIBP-PTs, ESIBP-TEs, and ESIBP-PCE consist of 57, 54, and 51 statements respectively. All the statements are positively worded. Each statement is followed by four responses on a continuum i.e. *strongly disagree (SD), disagree (D), agree (A), and strongly agree (SA),* and scored 1, 2, 3, and 4 respectively.

Development of Norms

The minimum score of ESIBP-PTs, ESIBP-TEs, and ESIBP-PCE can be 57, 54, and 51 respectively and the highest can be 228, 216, and 204 respectively. The descriptive statistics for the collected data in the case of ESIBP-PTs, ESIBP-TEs, and ESIBP-PCE are given in table 3.34 as follows:

Table 3.34

Descriptive Statistics of ESIBP-PTs, ESIBP-TEs, and ESIBP-PCE

Scale	Factor/Overall	N	Mean	SD
ESIBP-PTs	Context	98	26.96	3.19
	Input	98	47.14	5.65
	Process	98	63.68	7.49
	Product	98	53.92	6.84
	Overall	98	191.70	23.07
ESIBP-TEs	Context	96	24.35	4.36
	Input	96	42.32	6.13
	Process	96	48.53	7.49
	Product	96	47.14	6.60
	Overall	96	162.34	21.72
ESIBP-PCE	Context	24	25.35	3.42
	Input	24	47.54	6.45
	Process	24	52.15	6.98
	Product	24	36.35	4.22
	Overall	24	161.38	17.03

The researcher estimated z-score norms for ESIBP-PTs, ESIBP-TEs, and ESIBP-PCE based on the raw scores obtained by the representative sample using formula Z-score $= (x-M)/\sigma$, where x is the raw score of the individual respondent, M is the mean of the representative sample, σ is the standard deviation of the representative sample. The Z-scores corresponding to raw scores for pupil teachers, teacher educators, and principals of colleges of education is given in the appendices - E, K, and Q respectively. The Z-scores are further categorized into three levels of impact of B.Ed. programme on pupil teachers, teacher educators, and principal of colleges of education (in case of ESIBP-PTs, ESIBP-TEs, and ESIBP-PCE) as shown in table 3.35 to 3.37 below:

Table 3.35
Interpretation of ESIBPS-PTs Scores

Impact	Raw Scores	Range of Z-Score	Interpretation
	31 & Above	$+1\sigma$ & Above	Positive
Context	24 - 30	-1σ to $+1\sigma$	Average
	23 & Below	-1σ & Below	Negative
	53 & Above	$+1\sigma$ & Above	Positive
Input	42 - 52	-1σ to $+1\sigma$	Average
	41 & Below	-1σ & Below	Negative
	72 & Above	$+1\sigma$ & Above	Positive
Process	57 - 71	-1σ to $+1\sigma$	Average
	56 & Below	-1σ & Below	Negative
	61 & Above	$+1\sigma$ & Above	Positive
Product	48 - 60	-1σ to $+1\sigma$	Average
	47 & Below	-1σ & Below	Negative
	215 & Above	$+1\sigma$ & Above	Positive
Overall	169 - 214	-1σ to $+1\sigma$	Average
	168 & Below	-1σ & Below	Negative

The final ESIBP-PTs was having 57 statements grouped under four factors and fourteen dimensions (Appendix - D).

Table 3.36

Interpretation of ESIBP-TEs Scores

Impact	Raw Scores	Range of Z-Score	Interpretation
Context	29 & Above	+1σ & Above	Positive
	20 - 29	-1σ to +1σ	Average
	19 & Below	-1 σ & Below	Negative
Input	49 & Above	+1σ & Above	Positive
	37 - 48	-1σ to +1σ	Average
	36 & Below	-1 σ & Below	Negative
Process	57 & Above	+1σ & Above	Positive
	42 - 56	-1σ to +1σ	Average
	41 & Below	-1 σ & Below	Negative
Product	54 & Above	+1σ & Above	Positive
	41 - 53	-1σ to +1σ	Average
	40 & Below	-1 σ & Below	Negative
As a Whole	185 & Above	+1σ & Above	Positive
	141 - 184	-1σ to +1σ	Average
	140 & Below	-1 σ & Below	Negative

The final ESIBP-TEs was having 54 statements grouped under four factors and sixteen dimensions (Appendix - J).

Table 3.37

Interpretation of ESIBP-PCE Scores

Impact	Raw Scores	Range of Z-Score	Interpretation
Context	29 & Above	+1σ & Above	Positive
	22 - 28	-1σ to +1σ	Average
	21 & Below	-1 σ & Below	Negative
Input	54 & Above	+1σ & Above	Positive
	42 - 53	-1σ to +1σ	Average
	41 & Below	-1 σ & Below	Negative
Process	60 & Above	+1σ & Above	Positive
	46 - 59	-1σ to +1σ	Average
	45 & Below	-1 σ & Below	Negative
Product	41 & Above	+1σ & Above	Positive
	33 - 40	-1σ to +1σ	Average
	32 & Below	-1 σ & Below	Negative
As a Whole	179 & Above	+1σ & Above	Positive
	145 - 180	-1σ to +1σ	Average
	144 & Below	-1 σ & Below	Negative

The final ESIBP-PCE was having 51 statements grouped under four factors and fourteen dimensions (Appendix - P).

3.4.1.2 Interview Schedule for Teacher Educators and Principals of Colleges of Education

The intent to conduct interviews/ask open-ended questions with/from teacher educators and principals of colleges of education was to get a deep understanding of the impact of B.Ed. programme on stakeholders i.e. teacher educators and principals of colleges of education. The in-depth interview schedule was prepared with open-ended questions. Based on suggestions given by nine experts, a total of 15 questions were prepared for teacher educators and a total of 15 questions were prepared for principals of colleges of education covering various aspects of two-year B.Ed. programme. Keeping in mind to evaluate the impact of B.Ed. programme on stakeholders i.e. teacher educators and principals of colleges of education, the questions were discussed with nine experts at the local and national level. The experts reviewed the questions and gave ratings to each question out of *essential (E), useful (U)*, or *not necessary (N)*. The content validity ratio (CVR) of the interview schedule was calculated by using Lawshe's (1975) criteria for calculating content validity ratio (CVR). Based on suggestions and ratings given by experts; as well as content validity ratio (CVR) estimation, 13 questions out of 15 questions and 10 questions out of 15 questions prepared for teacher educators and principals of colleges of education respectively were retained in the final interview schedule for teacher educators and principals of colleges of education. The final draft of the interview schedule for TEs and PCE along with the content validity ratio (CVR) values is given in Appendices - I and O respectively

3.4.1.3 Development of Institutional Report Data

To obtain information related to institutions/colleges of education, a Performa was prepared by the investigator to be filled by the Principals of Colleges of Education/Office Clerk (Appendix - R). The following points were included in the *Institutional Report Data* by the investigator to seek institutions/colleges of education-related information.

❖ Admission of students,
❖ Utilization of institutional resources;

- ❖ Nature of the post of teacher educators,
- ❖ Workload of teacher educators,
- ❖ Experience and Qualification of teacher educators;
- ❖ Financial management of the institutions/Colleges of Education and
- ❖ Accreditation of the institutions/Colleges of Education.

3.5 PROCEDURE

The main focus of the research was to explore the impact of B.Ed. programme on pupil teachers, teacher educators, principals, and institutions/colleges of education. The mixed-method design was used in the study. The evaluation scale for the impact of B.Ed. programme for pupil teachers, teacher educators, and principals of colleges of education was developed by conducting focus group interviews and a well-defined procedure of tool construction. The developed tools were standardized on the required sample of stakeholders. The institutional report data form was developed to collect the institutions' related information. The quantitative and qualitative data were collected from pupil teachers, teacher educators, and principals of colleges of education by visiting the colleges of education personally and through google forms (online). The final sample was selected from 24 institutions affiliated to seven state and 3 private universities situated in the states of Punjab, Haryana, and Himachal Pradesh. Apart from this, the sample of stakeholders includes 24 principals, 120 teacher educators, and 1436 pupil teachers were selected through the stratified random sampling technique. The whole procedure of the data collection is presented below;

- During data collection, the purpose of the study was discussed with the respondents. Data refining was done on the responses of pupil teachers, teacher educators, and principals.
- Informal interviews of 120 teacher educators and 24 principals of colleges of education were conducted using open-ended questions.
- The whole data collection was collected approximately within three months i.e. from 10th April 2019 to 30th June 2019.
- The collected data were organized and segregated as aggregate scores, factorwise scores, dimensionwise, and statementwise for appropriate analysis.

3.6   STATISTICAL TECHNIQUES

The quantitative and qualitative statistical techniques employed to attain the objectives of the present study are detailed given below:

To achieve the first objective i.e.,

1. To study the impact of Context, Input, Process, and Product of the B.Ed. programme on the stakeholders (pupil teachers, teacher educators, and principals of colleges of education); Frequencies and frequency distributions, mean, standard deviation, synthetic indexes, percentages, t-test, linear regression, and qualitative analysis of opinions of teacher educators and principals of colleges of education were used.

➢ The frequency distribution table was prepared by counting the number of respondents against rating slabs i.e. 1.00 to 2.50 (Negative Impact of B.Ed. Programme), and 2.51 to 4.00 (Positive Impact of B.Ed. Programme); corresponding to the responses obtained on (1) whole evaluation scale for the impact of B.Ed. programme; (2) it's different factors; (3) it's different dimensions; and (4) it's different statements.

➢ To study the impact of B.Ed. programme as a whole; the mean of ratings for each respondent was calculated by dividing his/her total scores on evaluation scale for the impact of B.Ed. programme with the number of statements of evaluation scale for the impact of B.Ed. programme. By considering these obtained means of ratings as raw scores for each respondent, further, the mean for the whole sample was calculated by dividing the sum of raw scores by the number of respondents. The standard deviation of these raw scores was also calculated for the whole sample. These resultant mean and standard deviation of the raw scores is collectively termed as synthetic indexes.

➢ To study the factorwise impact of B.Ed. programme; the mean of ratings for each respondent was calculated by dividing his/her total scores on each factor of the evaluation scale for the impact of B.Ed. programme separately (by adding ratings of all statements included in each factor) with the number of statements included in each factor of the evaluation scale for the impact of B.Ed. programme. By considering these obtained means of ratings as raw

scores for each respondent, further, the mean for the whole sample was calculated by dividing the sum of raw scores by the number of respondents. The standard deviation of these raw scores was also calculated for the whole sample. These resultant means and standard deviations of the raw scores are collectively termed synthetic indexes.

➢ To study the dimensionwise impact of B.Ed. programme; the mean of ratings for each respondent was calculated by dividing his/her total scores into each dimension of the evaluation scale for the impact of B.Ed. programme separately (by adding ratings of all statements included in each dimension) with the number of statements included in each dimension of the evaluation scale for the impact of B.Ed. programme. By considering these obtained means of ratings as raw scores for each respondent, further, the mean for the whole sample was calculated by dividing the sum of raw scores by the number of respondents. The standard deviation of these raw scores was also calculated for the whole sample. These resultant means and standard deviations of the raw scores are collectively termed synthetic indexes.

➢ To study the statement wise impact of B.Ed. programme; the mean and standard deviation of each statement were calculated corresponding to each statement separately.

➢ To study the significance of the difference in means (synthetic indexes) of different factors, dimensions, and statements; t-values were calculated.

➢ To study the significance of the difference in percentages for positive (sum of the percentages of respondents opted *'strongly agree'* and *'agree'*) and negative (sum of the percentages of respondents who opted '*disagree'* and *'strongly agree'*) impact of B.Ed. corresponding to different statements; t-values were calculated.

➢ To study the contribution of Context, Input, Process, and Product as predictors in the impact of B.Ed. programme; correlation and linear regression were computed.

➢ To study the impact of B.Ed. programme on teacher educators and principal of colleges of education in terms of quality; analysis of their responses in interviews

(qualitative analysis) of teacher educators and principal of colleges of education were performed.

2. To achieve the second objective i.e., To study the impact of B.Ed. programme on the stakeholders (i.e. pupil teachers, teacher educators, and principal of colleges of education) with respect to its (i) state, (ii) university, and (iii) type of institution; ANOVA, t-test, and χ^2 test (quantitative analysis) were applied on raw scores.

3. To achieve the third objective i.e., To study the impact of B.Ed. programme on (i) admission of students, (ii) utilization of institutional resources; and (iii) nature of the post, (iv) workload, (v) experience and (vi) qualification of teacher educators; and (vii) financial management and (viii) accreditation of the institutions; Analysis of institutional data report (quantitative analysis) and analysis of interviews (qualitative analysis) were used.

In nutshell, this *'Chapter - III of Methodology'* dealt with the following sequentially;

1. The present study used mixed-method research.

2. The sample of the study comprised of 3 states (the states of Himachal Pradesh, Haryana, and Punjab), 10 Universities (7 state government and 3 private), 24 Colleges of Education (7 governments, 7 grants-in-aid, and 10 self-financed), 1486 pupil teachers, 120 teacher educators and 24 principal of colleges of education selected through the stratified random sampling technique.

3. Tools construction includes the development of an evaluation scale for the impact of B.Ed. programme on pupil teachers, teacher educators, and principal of colleges of education; institutional data report; interview schedule for teacher educators and principal of colleges of education; and Standardization of evaluation scale for the impact of B.Ed. programme on pupil teachers, teacher educators, and principal of colleges of education.

4. The data was collected from pupil teachers, teacher educators, and principals of colleges of education through the survey and google form (online); and by conducting interviews of teacher educators and principals of colleges of education.

5. Statistical techniques like frequencies and frequency distributions, mean, standard deviation, synthetic indexes, percentages, linear regression, t-test, ANOVA, and χ^2-test as quantitative analysis techniques; and interviews & institutional data report analysis as quantitative analysis techniques were used.

The next chapter i.e., *'Chapter IV'* deals with results and discussion of the findings. In this chapter, after the analysis of the collected data with the use of the above said statistical analysis techniques, detailed interpretation, and discussion of the findings are mentioned.

CHAPTER IV
RESULTS AND DISCUSSION

In the preceding chapter, a detailed description of the research method, sample, tools, and their construction, the procedure of data collection and statistical techniques to be used was given. The present chapter deals with the analysis of quantitative data collected from stakeholder (i.e., pupil teachers (PTs), teacher educators (TEs), and principals of colleges of education (PCE)) through rating scales and institutional data report; and qualitative data collected through interviews of teacher educators and principals of colleges of education.

The present chapter deals with the application of suitable data analysis techniques to bring forth the empirical results. The results, thus, obtained are explained in the light of available research studies and evidence. The research intended to illustrate quantitative results with qualitative findings to develop a holistic understanding of the impact of B.Ed. programme (IBP) on stakeholders i.e. pupil teachers, teacher educators, principals of colleges of education, and institutions/colleges of education.

After the analyses, the results and findings are organized in terms of the objectives and research questions mentioned in chapter two and which served to guide the conduct of the analysis. Each section is followed by a presentation and discussion of results obtained from pupil teachers, teacher educators, and principals of colleges of education responses; by a presentation and discussion of what was gleaned from the interviews of the teacher educators and principals of colleges of education, and the institutional data report.

In short, this chapter deals with the results and findings related to the objectives and research questions.

Objectives:

- To study the impact of B.Ed. programme on stakeholders i.e. (a) pupil teachers, (b) teacher educators, and (c) principals;

- To study the impact of B.Ed. programme on stakeholders i.e. (a) pupil teachers, (b) teacher educators, and (c) principals with respect to (i) state, (ii) university and (iii) type of institution; and

- To study the impact of B.Ed. programme on (i) admission of students, (ii) utilization of institutional resources; and (iii) nature of the post, (iv) workload, (v) experience and (vi) qualification of teacher educators; and (vii) financial management and (viii) accreditation of the institutions.

The first and second objectives have been explored by keeping in view the Context, Input, Process, and Product factors of the modified CIPP model.

Research questions:

- What is the impact of B.Ed. programme on stakeholders i.e. (a) pupil teachers, (b) teacher educators, and (c) principals?

- What is the impact of B.Ed. programme on stakeholders i.e. (a) pupil teachers, (b) teacher educators, and (c) principals with respect to (i) state, (ii) university, and (iii) type of institution/college of education studied separately or in combinations?

- How does B.Ed. programme impact the (i) admission of students, (ii) utilization of institutional resources; and (iii) nature of the post, (iv) workload, (v) experience and (vi) qualification of teacher educators; and (vii) financial management and (viii) accreditation of the Institutions?

The scheme of analysis and interpretation of objectives and research questions is presented in figures 4.1-A and 4.1-B.
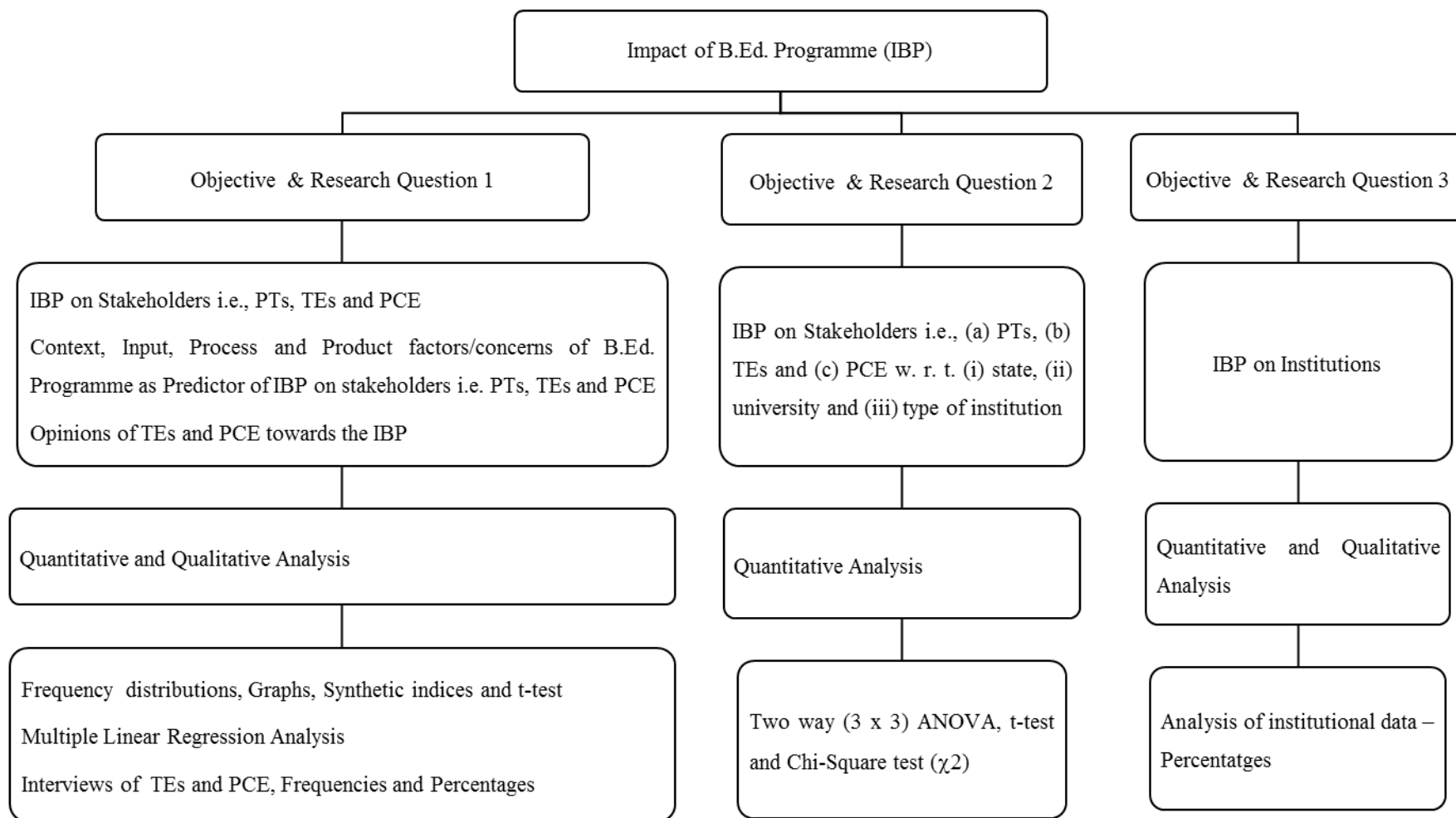
Figure 4.1-A Scheme of Analysis and Interpretation of Objectives and Research Questions
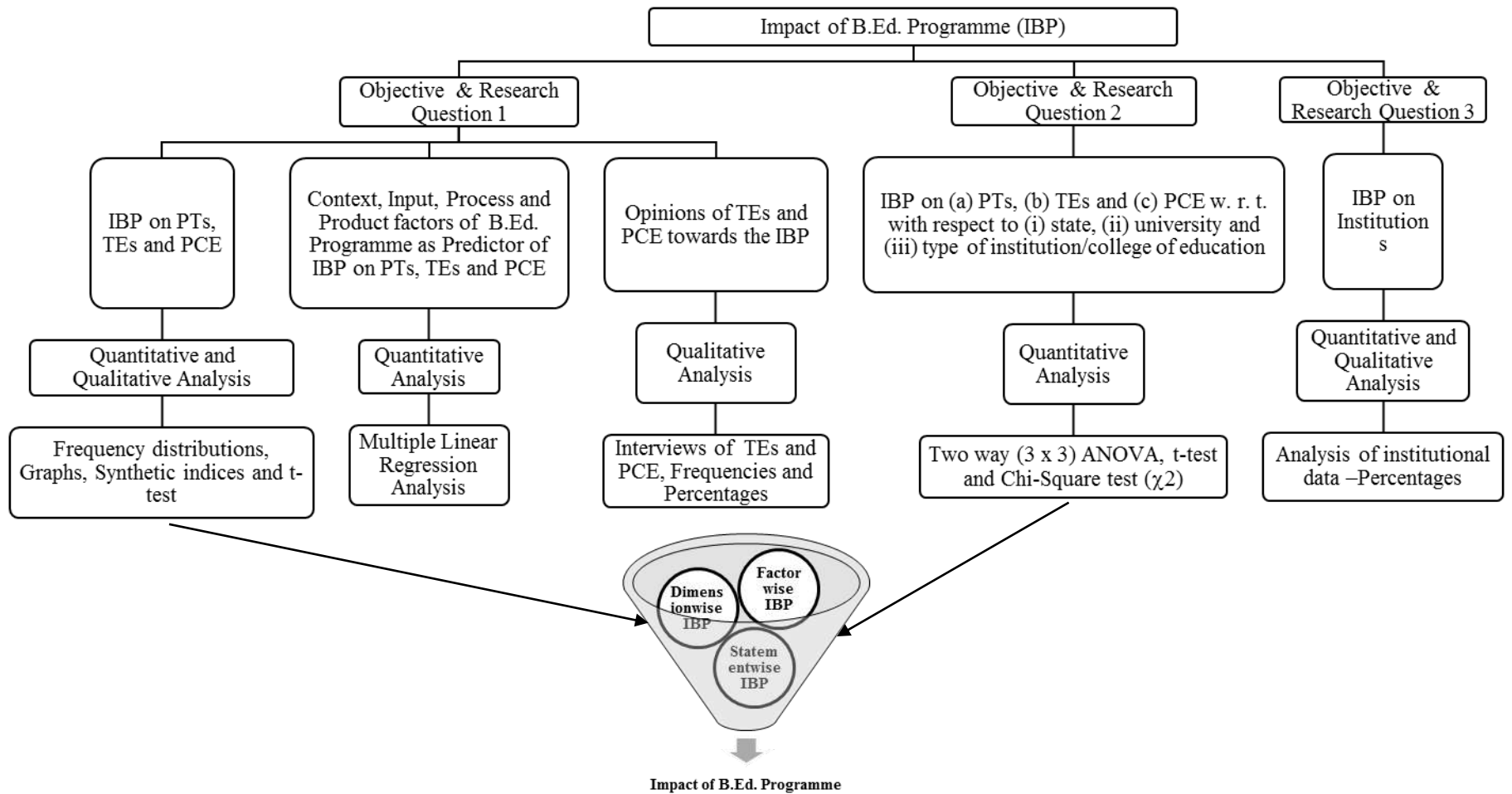
Figure 4.1-B Scheme of Analysis and Interpretation of Objectives and Research Questions

4.1   IMPACT OF B.ED. PROGRAMME ON STAKEHOLDERS (i.e. Pupil Teachers, Teacher Educators and Principals of Colleges of Education)

The first objective was to study the impact of B.Ed. programme on stakeholders (i.e. pupil teachers, teacher educators, and principals). The data was collected from pupil teachers, teacher educators, and principals of institutions/colleges of education of Punjab, Himachal Pradesh, and Haryana. To attain the stated objective, the data was analyzed to ascertain the impact of B.Ed. programme in total, factorwise, dimensionwise, and statementwise.

4.1.1   IMPACT OF B.ED. PROGRAMME ON PUPIL TEACHERS

The evaluation scale of impact of B.Ed. programme (ESIBP-PTs) was filled by pupil teachers (N = 1436) of Punjab (N = 641), Himachal Pradesh (N = 223) and Haryana (N = 572).

4.1.1.1 Analysis of Overall Impact of B.Ed. Programme on Pupil Teachers

In figure 4.2, the distribution of the mean of ratings of pupil teachers on the impact of B.Ed. programme follows the pattern of the normal probability curve. It indicates that the data of mean of ratings of pupil teachers on the impact of B.Ed. programme is normally distributed.
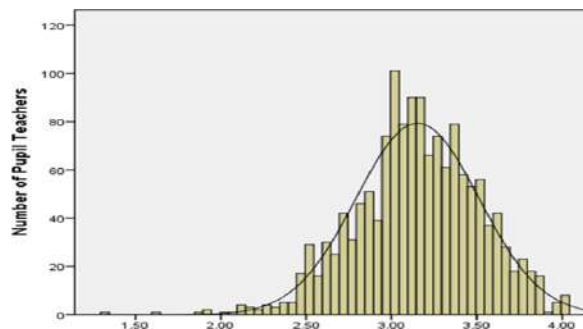
Mean of Ratings of PTs on the IBP

Figure 4.2 PTs Ratings depicting the IBP

The frequency distribution and synthetic indexes i.e. mean and standard deviations are shown in tables 4.1 and 4.2 for the impact of B.Ed. programme on pupil teachers. The strongly disagree and disagree responses show the negative whereas the strongly agree and agree responses show the positive impact of B.Ed. programme on the respondents. Based on the mean of ratings of pupil teachers for all the statements in the evaluation

scale for the impact of B.Ed. programme for pupil teachers (ESIBP-PTs), it is found that the maximum number of pupil teachers (N = 1386, 96.52%) have a positive impact of B.Ed. programme and their mean ratings varied from 2.51 to 4.00 (table 4.1).

Table 4.1

Frequency Distribution of Mean of Ratings of Pupil Teachers on ESIBP-PTs

S. No.	IBP	Mean of Ratings	Number of Pupil Teachers
1	Negative	1.00 – 2.50	50
2	Positive	2.51 – 4.00	1386
Total			1436

Synthetic indexes are constructed to summarize the average of the rating scores on each item constituting the impact of B.Ed. programme on pupil teachers (table 4.2).

Table 4.2

Values of Mean and Standard Deviation as Synthetic Index of the Impact of B.Ed. Programme on Pupil Teachers

Impact of B.Ed. Programme on Pupil Teachers	N	M	SD
	1436	3.15	.36

The synthetic indexes i. e., mean and standard deviation, of responses to statements associated with the impact of B.Ed. programme are 3.15 and .36 (table 4.2). It is found that the maximum number of pupil teachers responded to option '*Agree'/ 'Strongly agree'*, so the impact of B.Ed. programme is positive on pupil teachers.

The collected data was processed by comparing the synthetic indexes of frequencies falling below (category I) and above (category II) synthetic mean of total scores by applying a t-test.

The significance of the difference between the means of pupil teachers with mean of ratings corresponding to 1.00 to 2.50 (Category I) and 2.51 to 4.00 (Category II) have been compared and shown in the means matrix presented in the table 4.3 and tested against the following null hypothesis:

H$_o$: There is no significant difference in the impact of B.Ed. programme on pupil teachers of Category I and II.

Table 4.3

Means Matrix Showing Significance of Difference in the Means regarding Impact of B.Ed. Programme on Pupil Teachers of Category I and II

Category			Category I	Category II
	M **SD**		2.29 .24	3.18 .32
Category I	2.29 .24	**t**	-	**25.94**[**]
Category II	3.18 .32	**t**		-

[**] *α = .01*

There is a significant difference in the impact of B.Ed. programme, as the value of t $_{(1434)}$ = 25.94 is significant at α = .01 (table 4.3). Therefore, pupil teachers of Category I (M$_{C-I}$ = 2.29) have significantly more impact of B.Ed. programme as compared to pupil teachers of Category II (M$_{C-II}$ = 3.18). Thus, H$_o$ stands not accepted for the comparison between the mean of ratings on the impact of B.Ed. programme to the pupil teachers of Category I and II.

4.1.1.2 Factorwise Analysis of Data of Impact of B.Ed. Programme Scores on Pupil Teachers

In figures 4.3 to 4.6, the distribution of the mean of ratings of pupil teachers on the four factors i.e. Context, Input, Process, and Product factors/concerns of the impact of B.Ed. programme (IBP) follows the pattern of the normal probability curve. It indicates that the data of mean of ratings of pupil teachers (PTs) on the four factors are normally distributed.
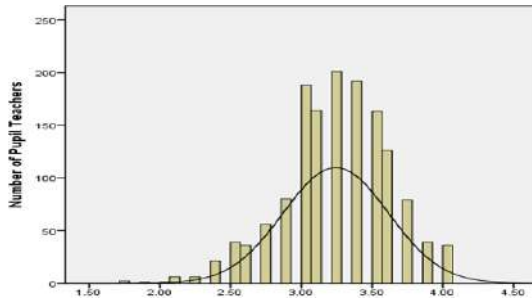
Mean of Ratings of PTs on Context Factor

Figure 4.3 PTs Ratings depicting the contribution of Context Factor towards IBP
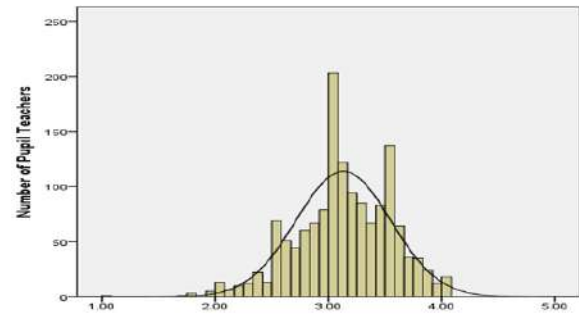
Mean of Ratings of PTs on Input Factor

Figure 4.4 PTs Ratings depicting the contribution of the Input Factor towards IBP
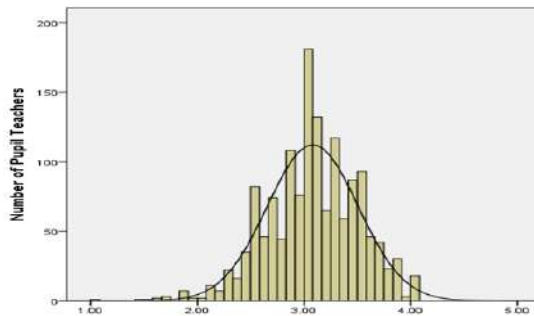
Mean of Ratings of PTs on Process Factor

Figure 4.5: PTs Ratings depicting the contribution of Process Factor towards IBP
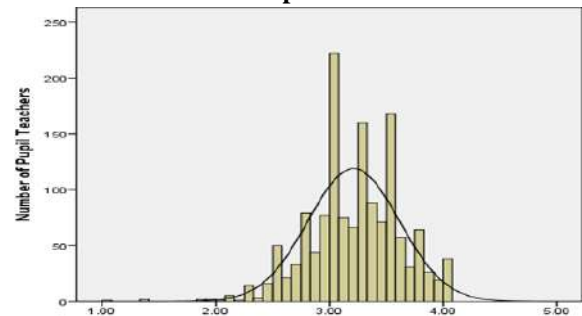
Mean of Ratings of PTs on Product Factor

Figure 4.6: PTs Ratings depicting the contribution of Product Factor towards IBP

The frequency distributions and synthetic indexes i.e. mean and standard deviations are shown in tables 4.4 and 4.5 for the factorwise impact of B.Ed. programme on pupil teachers. The strongly disagree and disagree responses show the negative whereas the strongly agree and agree responses show the positive impact of B.Ed. programme on the respondents. Based on the mean of ratings of pupil teachers for the four factors in ESIBP-PTs, it is found that the maximum number of pupil teachers ($N_{Context}$ = 1360, 94.71%; N_{Input} = 1320, 91.92%; $N_{Process}$ =1326, 92.34%; and $N_{Product}$ =1364, 94.97%) have a positive impact of B.Ed. programme and their mean ratings varied from 2.51 to 4.00 (table 4.4).

Table 4.4

Frequency Distribution of Mean of Ratings of Pupil Teachers on Four Factors of ESIBP-PTs

S. No.	IBP	Mean of Ratings	Number of Pupil Teachers in Four Factors of ESIBP-PTs			
			Context	Input	Process	Product
1	Negative	1.00 – 2.50	76	116	110	72
2	Positive	2.51 – 4.00	1360	1320	1326	1364
Total			1436	1436	1436	1436

The synthetic indexes for the four factors of impact of B.Ed. programme are 3.24, 3.13, 3.08 & 3.21 as mean values; and .37, .42, .43 & .40 as standard deviation values, respectively (table 4.5). The self-reporting of the pupil teachers for the impact of the four factors of B.Ed. programme indicates the positive impact of all these four factors of B.Ed. programme on them. The range of the mean of the ratings on the four factors of B.Ed. programme is from 3.08 to 3.24, and the arrangement in the descending order of their impact on pupil teachers is as follows:

Context (3.24) > Product (3.21) > Input (3.13) > Process (3.08)

Table 4.5

Means Matrix Showing Significance of Difference in Means of Four Factors regarding Impact of B.Ed. Programme on Pupil Teachers

Factor			Context	Product	Input	Process
	M **SD**		3.24 .37	3.21 .40	3.13 .42	3.08 .43
Context	3.24 .37	r t	-	$.63^{**}$ 3.56^{**}	$.59^{**}$ 11.99^{**}	$.58^{**}$ 16.60^{**}
Product	3.21 .40	r t		-	$.67^{**}$ 9.44^{**}	$.74^{**}$ 16.68^{**}
Input	3.13 .42	r t			-	$.77^{**}$ 6.35^{**}
Process	3.08 .43	r t				-

$^{**} \alpha = .01$

The significance of the difference between these means have been compared and shown in the means matrix presented above (table 4.5) and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of four factors of B.Ed. programme on pupil teachers.

There are significant differences in the impact of the six comparisons between means of responses for Context factor over Input, Process, and Product factors, as the values of t $_{(1435)}$ = 11.99, 16.60, and 3.56 are significant at α = .01; for Product factor over Input and Process factors, as the values of t $_{(1435)}$ = 9.44 and 16.68 are significant at α = .01; and for Input factor over Process factor, as the value of t $_{(1435)}$ = 6.35 is significant at α = .01 (table 4.5). Therefore, Context factor (M_C = 3.24) has significantly more impact on pupil teachers as compared to Product (M_{Pr} = 3.21), Input (M_I = 3.13) and Process (M_P = 3.08) factors; Product factor (M_{Pr} = 3.21) has significantly more impact on pupil teachers as compared to Input (M_I = 3.13) and Process (M_P = 3.08) factors; and Input factor (M_I = 3.13) has significantly more impact on pupil teachers as compared to Process (M_P = 3.08) factor of B.Ed. programme.   Thus, H_o stands not accepted for the six comparisons between means of responses to Context vs Input; Context vs Process; Context vs Product; Product vs Input; Product vs Process; and Input vs Product factors of B.Ed. programme.

4.1.1.3 Dimensionwise Analysis of Data of Context Factor of Impact of B.Ed. Programme Scores on Pupil Teachers

In figures 4.7 and 4.8, the distribution of the mean of ratings of pupil teachers on the two dimensions i.e. Mission & Vision (MV) and Programme Objectives (PO) of Context factor of impact of B.Ed. programme follows the pattern of the normal probability curve. It indicates that the data of mean of ratings of pupil teachers on the two dimensions i.e. mission & vision and programme objectives are normally distributed.

The frequency distribution and synthetic indexes i.e. mean and standard deviations are shown in tables 4.6 and 4.7 for the dimensionwise impact of B.Ed. programme, related to Context factor, on pupil teachers. The strongly disagree and disagree responses show the negative whereas the strongly agree and agree responses show the positive impact of B.Ed. programme on the respondents.
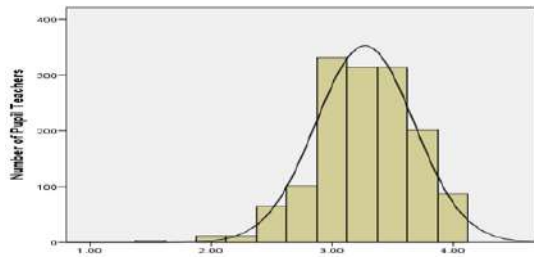
Mean of Ratings of PTs on MV Dimension

Figure 4.7 PTs Ratings depicting the contribution of Mission & Vision dimension of Context Factor towards IBP
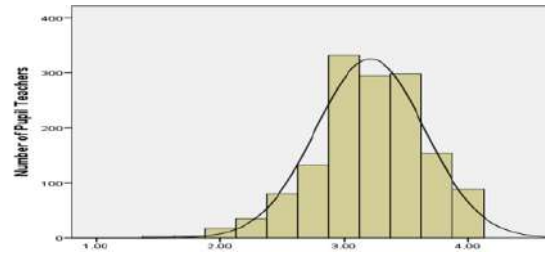
Mean of Ratings of PTs on PO Dimension

Figure 4.8 PTs Ratings depicting the contribution of Programme Objectives dimension of Context Factor towards IBP

Based on the mean of ratings of pupil teachers for the two dimensions i.e. mission & vision and programme objectives of Context factor of ESIBP-PTs, it is found that the maximum number of pupil teachers (N_{MV} = 1347, 93.80% and N_{PO} =1299, 90.76%) have a positive impact of B.Ed. programme and their mean ratings varied from 2.51 to 4.00 (table 4.6).

Table 4.6

Frequency Distribution of Mean of Ratings of Pupil Teachers on Two Dimensions of Context Factor of ESIBP-PTs

S. No.	IBP	Mean of Ratings	Number of Pupil Teachers	
			Mission & Vision	Programme Objectives
1	Negative	1.00 – 2.50	89	137
2	Positive	2.51 – 4.00	1347	1299
Total			1436	1436

The synthetic indexes for the two dimensions i.e., Mission & Vision (MV) and Programme Objectives (PO) of Context factor of IBP are 3.27 & 3.21 as mean values; and .41 & .44 as standard deviation values, respectively (table 4.7). It is found that both dimensions have a positive impact on pupil teachers. The mean value of ratings for dimension mission & vision (3.27) is higher than the value of the dimension programme objectives (3.21).

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The significance of the difference between these means have been compared and shown in the means matrix presented below (table 4.7) and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of two dimensions of the Context factor of B.Ed. programme on pupil teachers.

Table 4.7

Means Matrix Showing Significance of Difference in Means of Two Dimensions of Context Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Dimension⟶			MV	PO
	M ⟶		3.27	3.21
	SD ↓		.41	.44
Mission & Vision (MV)	3.27	r	-	**.55**[**]
	.41	t		**5.73**[**]
Programme Objectives (PO)	3.21	r		-
	.44	t		

[**] $\alpha = .01$

There is a significant difference in the impact of comparison between means of responses for the dimension mission & vision over the dimension programme objectives as the value of t $_{(1435)}$ = 5.73 is significant at α = .01 (table 4.7). Therefore, the higher mean score of the dimension mission & vision (M_{MV} = 3.27) indicates that the dimension mission & vision has significantly more impact on pupil teachers as compared to dimension programme objectives (M_{PO} = 3.21). Thus, H_o stands not accepted for a comparison between means of responses to the dimensions mission & vision vs programme objectives of Context factor of B.Ed. programme.

4.1.1.4 Dimensionwise Analysis of Data of Input Factor of Impact of B.Ed. Programme Scores on Pupil Teachers

In figures 4.9 to 4.12, the distribution of the mean of ratings of pupil teachers (PTs) on the four dimensions i.e. Academic Input (AI), Resource Input (RI), Training Input (TI), and Professional Input (PI) of Input factor of impact of B.Ed. programme (IBP) follows the pattern of the normal probability curve. It indicates that the data of mean of ratings of

pupil teachers on the four dimensions of Input factor of impact of B.Ed. programme is normally distributed.
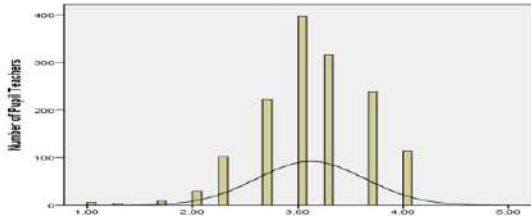
Mean of Ratings of PTs on AI Dimension

Figure 4.9 PTs Ratings depicting the contribution of AI dimension of Input Factor towards IBP
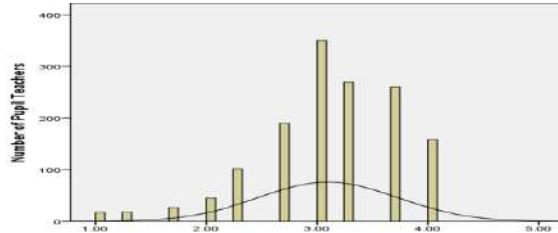
Mean of Ratings of PTs on RI Dimension

Figure 4.10 PTs Ratings depicting the contribution of RI dimension of Input Factor towards IBP
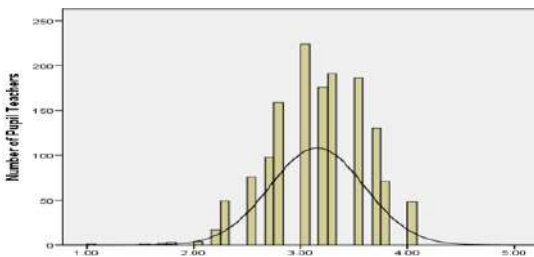
Mean of Ratings of PTs on TI Dimension

Figure 4.11: PTs Ratings depicting the contribution of TI dimension of Input Factor towards IBP
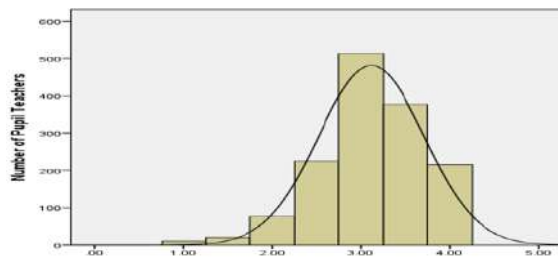
Mean of Ratings of PTs on PI Dimension

Figure 4.12: PTs Ratings depicting the contribution of PI dimension of Input Factor towards IBP

The frequency distribution and synthetic indexes i.e. mean and standard deviations are shown in tables 4.8 and 4.9 for the dimensionwise impact of B.Ed. programme, related to Input factor, on pupil teachers. The strongly disagree and disagree responses show the negative whereas the strongly agree and agree responses show the positive impact of B.Ed. programme on the respondents. Based on the mean of ratings of pupil teachers for the four dimensions of Input factor in ESIBP-PTs, it is found that the maximum number of pupil teachers (N_{AI} = 1285, 89.49%; N_{RI} = 1227, 85.45%; N_{TI} = 1283, 89.35%; and N_{PI} =1105, 76.95%) have a positive impact of B.Ed. programme and their mean ratings varied from 2.51 to 4.00 (table 4.8).

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Table 4.8

Frequency Distribution of Mean of Ratings of Pupil Teachers on Four Dimensions of Input Factor of ESIBP-PTs

S. No.	IBP	Mean of Ratings	Number of Pupil Teachers			
			Academic Input	Resource Input	Training Input	Professional Input
1	Negative	1.00 – 2.50	151	209	153	331
2	Positive	2.51 – 4.00	1285	1227	1283	1105
Total			1436	1436	1436	1436

The synthetic indexes for the four dimensions i.e., Academic Input (AI), Resource Input (RI), Training Input (TI), and Professional Input (PI) of Input factor of impact of B.Ed. programme are 3.12, 3.10, 3.15 & 3.12 as mean values; and .52, .63, .44 & .60 as standard deviation values, respectively (table 4.9). It means all four dimensions have a positive impact on pupil teachers. The range of the mean of ratings is from 3.10 to 3.15, and the arrangement of these mean values in descending order of their impact on pupil teachers is as follows:

$$TI\ (3.15) > AI\ (3.12) = PI\ (3.12) > RI\ (3.10)$$

Table 4.9

Means Matrix Showing Significance of Difference in Means of Four Dimensions of Input Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Dimension			TI	AI	PI	RI
	M		3.15	3.12	3.12	3.10
	SD		.44	.52	.60	.63
Training Input (TI)	3.15	r	-	.53**	.58**	.50**
	.44	t		2.63**	3.01**	3.64**
Academic Input (AI)	3.12	r		-	.47**	.49**
	.52	t			.44	1.36
Professional Input (PI)	3.12	r			-	.54**
	.60	t				.93
Resource Input (RI)	3.10	r				-
	.63	t				

** $\alpha = .01$

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.9 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of four dimensions of the Input factor of B.Ed. programme on pupil teachers.

There are significant differences in the impact of the three comparisons between means of responses for the dimension Training Input (TI) over the dimensions Academic Input (AI), Resource Input (RI), and Professional Input (PI) as the values of t $_{(1435)}$ = 2.63, 3.64 and 3.01 are significant at α = .01; and there are non-significant differences in the impact of the three comparisons between means of responses for the dimensions academic input vs professional input; academic input vs resource input and professional input vs resource input, as the values of t $_{(1435)}$ = .44, 1.36 and .93 are non-significant at α = .05 (table 4.9). Therefore, the higher mean score of the dimension training input (M_{TI} = 3.15) indicates that the dimension training input has significantly more impact on pupil teachers as compared to the dimensions academic input (M_{AI} = 3.12), professional input (M_{PI} = 3.12), and resource input (M_{RI} = 3.10). On the other hand, the dimensions namely academic input vs professional input; academic input vs resource input; and professional input vs resource input have no significant difference in the impact on the pupil teachers. Thus, H_o stands not accepted for the three comparisons between means of responses to the dimensions training input vs academic input; training input vs resource input; and training input vs professional input whereas H_o stands accepted for the three comparisons between means of responses to the dimensions academic input vs professional input; academic input vs resource input; and professional input vs resource input of Input factor of B.Ed. programme.

4.1.1.5 Dimensionwise Analysis of Data of Process Factor of Impact of B.Ed. Programme Scores on Pupil Teachers

In figures 4.13 to 4.17, the distribution of the mean of ratings of pupil teachers on the five dimensions i.e. Curriculum Transaction Process (CTP), Professional Process (PP), Training Process (TP), Academic Process (AP), and Evaluation Process (EP) of Process factor of impact of B.Ed. programme follows the pattern of the normal probability curve. It indicates that the data of mean of ratings of pupil teachers (PTs) on the five dimensions of Process factor of impact of B.Ed. programme (IBP) is normally distributed.
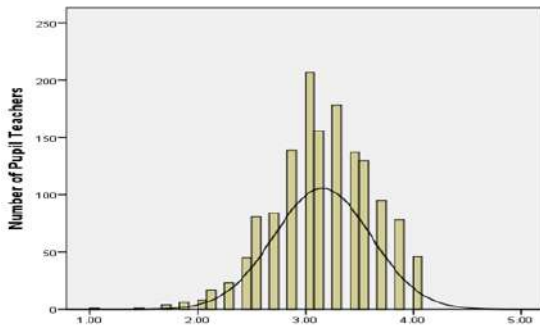
Mean of Ratings of PTs on CTP Dimension

Figure 4.13 PTs Ratings depicting the contribution of CTP dimension of Process Factor towards IBP
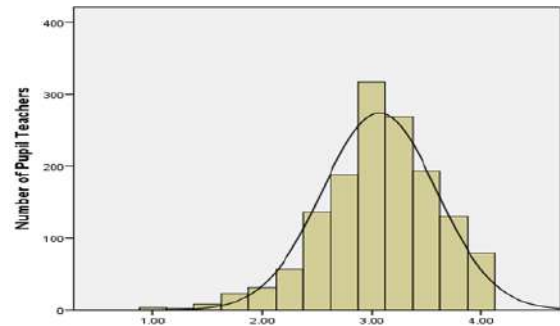
Mean of Ratings of PTs on PP Dimension

Figure 4.14 PTs Ratings depicting the contribution of PP dimension of Process Factor towards IBP

Mean of Ratings of PTs on TP Dimension

Figure 4.15: PTs Ratings depicting the contribution of TP dimension of Process Factor towards IBP

Mean of Ratings of PTs on AP Dimension

Figure 4.16: PTs Ratings depicting the contribution of AP dimension of Process Factor towards IBP
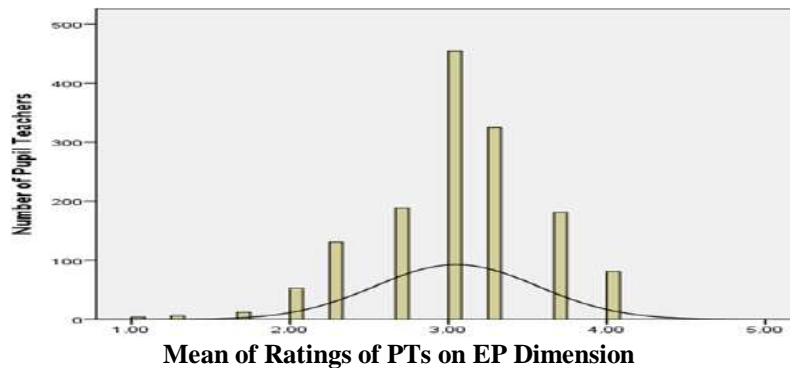
Mean of Ratings of PTs on EP Dimension
Figure 4.17: PTs Ratings depicting the contribution of Evaluation dimension of Process factor towards IBP

The frequency distribution and synthetic indexes i.e. mean and standard deviations are shown in tables 4.10 and 4.11 for the dimensionwise impact of B.Ed. programme, related to Process dimension, on pupil teachers. The strongly disagree and disagree responses show the negative whereas the strongly agree and agree responses show the positive impact of B.Ed. programme on the respondents. Based on the mean of ratings of pupil teachers for the five dimensions of Process factor in ESIBP-PTs, it is found that the maximum number of pupil teachers ($N_{CTP} = 1331$, 92.69%; $N_{PP} = 1176$, 81.89%; $N_{TP} = 1187$, 82.66%; $N_{AP} = 1064$, 74.10% and $N_{EP} = 1230$, 85.66%) have a positive impact of B.Ed. programme and their mean ratings varied from 2.51 to 4.00 (table 4.10).

Table 4.10

Frequency Distribution of Mean of Ratings of Pupil Teachers on Five Dimensions of ProcessFactorof ESIBP-PTs

S. No.	IBP	Mean of Ratings	Number of Pupil Teachers				
			CTP	PP	TP	AP	EP
1	Negative	1.00 – 2.50	105	260	249	372	206
2	Positive	2.51 – 4.00	1331	1176	1187	1064	1230
Total			1436	1436	1436	1436	1436

The synthetic indexes for the five dimensions i.e., Curriculum Transaction Process (CTP), Professional Process (PP), Training Process (TP), Academic Process (AP), and Evaluation Process (EP) of Process factor of impact of B.Ed. programme are 3.16, 3.07, 2.99, 3.02 & 3.05 as mean values; and .45, .52, .54, .60 & .51 as standard deviation values, respectively (table 4.11). It means all five dimensions have a positive impact on

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pupil teachers. The range of the mean of ratings is from 2.99 to 3.16; the arrangement of these mean values in descending order of their impact on pupil teachers is as follows:

CTP (3.16) >PP (3.07) >EP (3.05) >AP (3.02) >TP (2.99)

The significance of the difference between these means have been compared and shown in the means matrix presented below (table 4.11) and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of five dimensions of Process factor of B.Ed. programme on pupil teachers.

Table 4.11

Means Matrix Showing Significance of Difference in Means of Five Dimensions of Process Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Dimension ⟶			CTP	PP	EP	AP	TP
	M ⟶		3.16	3.07	3.05	3.02	2.99
	SD ↓		.45	.52	.51	.60	.54
Curriculum Transaction Process (CTP)	3.16 .45	**r** **t**	-	**.72**** **9.03****	**.60**** **9.38****	**.62**** **10.98****	**.63**** **14.90****
Professional Process (PP)	3.07 .52	**r** **t**		-	**.58**** 1.60	**.63**** **3.88****	**.63**** **6.63****
Evaluation Process (EP)	3.05 .51	**r** **t**			-	**.51**** **2.03***	**.52**** **4.39****
Academic Process (AP)	3.02 .60	**r** **t**				-	**.57**** **2.16***
Training Process (TP)	2.99 .54	**r** **t**					-

** α = .01 and * α = .05

There are significant differences in the impact of the nine comparisons between means of responses for the dimension curriculum transaction process (CTP) over the dimensions professional process (PP), evaluation process (EP), academic process (AP) and training process (TP), as the values of t $_{(1435)}$ = 9.03, 14.90, 10.98 and 9.38 are significant at α = .01; for the dimension professional process over the dimensions academic process and training process, as the values of t $_{(1435)}$ = 3.88 and 6.63 are significant at α = .01; for the dimension evaluation process over the dimensions academic process and training process,

as the values of t $_{(1435)}$ = 2.03 and 4.39 are significant at α = .05 and .01 respectively; for the dimension academic process over the dimension training process, as the value of t $_{(1435)}$ = 2.16 is significant at α = .05; and there is non-significant difference in the impact of a comparison between means of responses for the dimensions professional process and evaluation process, as the value of t $_{(1435)}$ = 1.60 is non-significant at α = .05 (table 4.11). Therefore, the dimension curriculum transaction process (M_{CTP} = 3.16) has significantly more impact on the pupil teachers as compared to the dimensions professional process (M_{PP} = 3.07), evaluation process (M_{EP} = 3.05), academic process (M_{AP} = 3.02) and training process (M_{TP} = 2.99); dimensions professional process (M_{PP} = 3.07) and evaluation process (M_{EP} = 3.05) have significantly more impact on pupil teachers as compared to the dimensions academic process (M_{AP} = 3.02) and TP (M_{TP} = 2.99); dimension academic process (M_{AP} = 3.02) has significantly more impact on pupil teachers as compared to the dimension training process (M_{TP} = 2.99). On the other hand, the dimensions professional process (M_{PP} = 3.07) vs evaluation process (M_{EP} = 3.05) of the Process factor of B.Ed. programme has no significant difference in the impact on pupil teachers. Thus, H_o stands not accepted for the nine comparisons between means of responses to the dimensions curriculum transaction process vs professional process; curriculum transaction process vs evaluation process; curriculum transaction process vs academic process; curriculum transaction process vs training process; professional process vs academic process; professional process vs training process; evaluation process vs academic process; evaluation process vs training process; and academic process vs training process whereas H_o stands accepted for a comparison between means of responses to the dimensions professional process vs evaluation process of Process factor of B.Ed. programme.

4.1.1.6 Dimensionwise Analysis of Data of Product Factor of Impact of B.Ed. Programme Scores on Pupil Teachers

In figures 4.18 to 4.20, the distribution of the mean of ratings of pupil teachers on the three dimensions i.e., Professional Competencies Product (PCPr), Inclusive Competencies Product (ICPr), and Teaching & Evaluation Competencies Product

(TECPr) of Product factor of impact of B.Ed. programme follows the pattern of the normal probability curve. It indicates that the data of mean of ratings of pupil teachers (PTs) on the three dimensions of Product factor of impact of B.Ed. programme (IBP) is normally distributed.
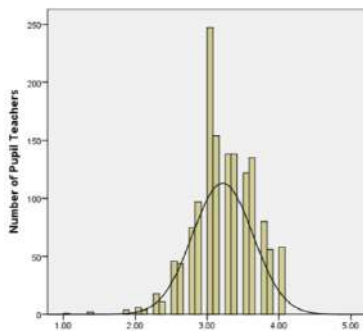
Mean of Ratings of PTs on PCPr Dimension	Mean of Ratings of PTs on ICPr Dimension	Mean of Ratings of PTs on TECPr Dimension
Figure 4.18 PTs Ratings depicting the contribution of PCPr dimension of Product Factor towards IBP	Figure 4.19 PTs Ratings depicting the contribution of ICPr dimension of Product Factor towards IBP	Figure 4.20 PTs Ratings depicting the contribution of TECPr dimension of Product Factor towards IBP

The frequency distribution and synthetic indexes i.e. mean and standard deviations are shown in tables 4.12 and 4.13 for the dimensionwise impact of B.Ed. programme, related to Product dimension, on pupil teachers.

The strongly disagree and disagree responses show the negative whereas strongly agree and agree responses show the positive impact of B.Ed. programme on the respondents. Based on the mean ratings of pupil teachers for the three dimensions of Product factor in

Table 4.12

Frequency Distribution of Mean of Ratings of Pupil Teachers on Three Dimensions of Product Factor of ESIBP-PTs

S. No.	IBP	Mean of Ratings	Number of Pupil Teachers		
			PCPr	ICPr	TECPr
1	Negative	1.00 – 2.50	92	189	130
2	Positive	2.51 – 4.00	1344	1247	1306
Total			1436	1436	1436

ESIBP-PTs, it is found that the maximum number of pupil teachers ($N_{PCPr} = 1344$, 93.59%; $N_{ICPr} = 1247$, 86.84%; and $N_{TECPr} = 1306$, 90.95%) have a positive impact of B.Ed. programme and their mean ratings varied from 2.51 to 4.00 (table 4.12).

The synthetic indexes for the three dimensions i.e., Professional Competencies Product (PCPr), Inclusive Competencies Product (ICPr), and Teaching & Evaluation Competencies Product (TECPr) of Product factor of impact of B.Ed. programme are 3.21, 3.23 & 3.20 as mean values; and .42, .53 & .45 as standard deviation values, respectively (table 4.13). It is found that all three dimensions have a positive impact on pupil teachers. The range of the mean of ratings is from 3.20 to 3.23; the arrangement of these mean values in descending order of their impact on pupil teachers is as follows:

ICPr (3.23) >PCPr (3.21) >TECPr (3.20)

The significance of the difference between these means have been compared and shown in the means matrix presented below (table 4.13) and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of three dimensions of the Process factor of B.Ed. programme on pupil teachers.

Table 4.13

Means Matrix Showing Significance of Difference in Means of Three Dimensions of Product Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Dimension ⟶				ICPr	PCPr	TECPr
	M ⟶			3.23	3.21	3.20
	SD ↓			.53	.42	.45
Inclusive Competencies Product (ICPr)	3.23	r	-		**.63****	**.57****
	.53	t			.96	**1.96***
Professional Competencies Product (PCPr)	3.21	r			-	**.75****
	.42	t				1.60
Teaching & Evaluation Competencies Product (TECPr)	3.20	r				-
	.45	t				

**α = .01 and *α = .05

There is a significant difference in the impact of comparison between means of responses for the dimension inclusive competencies product (ICPr) over the dimension teaching &

evaluation competencies product (TECPr), as the value of t $_{(1435)}$ = 1.96 is significant at α = .05; and there are non-significant differences in the impact of the two comparisons between means of responses for the dimensions inclusive competencies product vs professional competencies product and professional competencies product vs teaching & evaluation competencies product, as the values of t $_{(1435)}$ = .96, and 1.60 are non-significant at α = .05 (table 4.13). Therefore, the higher mean score of the dimension inclusive competencies product (M_{ICPr} = 3.23) indicates that the dimension inclusive competencies product has significantly more impact on pupil teachers as compared to the dimension teaching & evaluation competencies product (M_{TECPr} = 3.20). On the other hand, the dimensions inclusive competencies product vs professional competencies product and professional competencies product vs teaching & evaluation competencies product have no significant difference in the impact on the pupil teachers. Thus, H_o stands not accepted for a comparison between means of responses to the dimensions inclusive competencies product vs teaching & evaluation competencies product whereas H_o stands accepted for the two comparisons between means of responses to the dimensions inclusive competencies product vs professional competencies product and professional competencies product vs teaching & evaluation competencies product of Product factor of B.Ed. programme.

4.1.1.7 Statementwise Analysis of Data of Mission & Vision Dimension of Context Factor of Impact of B.Ed. Programme on Pupil Teachers

The synthetic indexes, for the four statements of Mission & Vision (MV) dimension of the impact of B.Ed. programme, are 3.35, 3.23, 3.31, and 3.20 as mean values; and .56, .60, .64 & .68 as standard deviation values (table 4.14) which indicates that there is a positive impact of the four statements on pupil teachers. The arrangement of mean values in descending order of their impact on pupil teachers is as follows:

$$MV_1 \ (3.35) > MV_3 \ (3.31) > MV_2 \ (3.23) > MV_4 \ (3.20)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement MV_1 (Develops prospective teachers into a competent professional) has more impact on pupil teachers as compared to the other three statements

i.e. MV_3 (Develops skills to deal with the diverse problems of class in them); MV_2 (Emphasizes on the holistic development of prospective teachers); and MV_4 (Develops inclusive competencies to deal with diverse students) as mission & vision dimension of Context factor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.14 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of four statements of mission & vision dimension of Context factor of B.Ed. programme on pupil teachers.

Table 4.14

Means Matrix Showing Significance of Difference in Means of Four Statements of Mision & Vision Dimension of Context Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements ———————→			MV_1	MV_3	MV_2	MV_4
↓	M ———→ SD ↓		3.35 .56	3.31 .64	3.23 .60	3.20 .68
MV_1	3.35 .56	r t	-	$.18^{**}$ 2.05^{*}	$.31^{**}$ 6.56^{**}	$.23^{**}$ 7.64^{**}
MV_3	3.31 .64	r t		-	$.19^{**}$ 3.64^{**}	$.26^{**}$ 5.39^{**}
MV_2	3.23 .60	r t			-	$.26^{**}$ 1.86
MV_4	3.20 .68	r t				-

** $\alpha = .01$ and $^{*}\alpha = .05$

MV_1 (Develops prospective teachers into a competent professional); MV_2 (Emphasizes on the holistic development of prospective teachers); MV_3 (Develops skills to deal with the diverse problems of class in them); and MV_4 (Develops inclusive competencies to deal with diverse students).

There are significant differences in the impact of the five comparisons between means of responses for the statement MV_1 over the statements MV_3, MV_2, and MV_4, as the values of t $_{(1435)}$ = 2.05, 6.56 and 7.64 are significant at α = .05 and .01; for the statement MV_3 over the statements MV_2 and MV_3, as the values of t $_{(1435)}$ = 3.64 and 5.39 are significant at α = .01; and there is a non-significant difference in the impact of comparison between

means of responses for the statements MV_2 vs MV_4, as the value of t $_{(1435)}$ = 1.86 is non-significant at α = .05 (table 4.14).

Therefore, the higher mean score of MV_1 (M_{MV1} = 3.35) indicates that MV_1 has significantly more impact on the pupil teachers as compared to MV_3 (M_{MV3} = 3.31), MV_2 (M_{MV2} = 3.23), and MV_4 (M_{MV4} = 3.20). On the other hand, the statements MV_2 vs MV_4 have no significant difference in the impact on pupil teachers. Thus, H_o stands not accepted for the five comparisons between means of responses to the statements MV_1 vs MV_3; MV_1 vs MV_2; MV_1 vs MV_4; MV_3 vs MV_2; and MV_3 vs MV_3 whereas H_o stands accepted for a comparison between means of responses to the statements MV_2 vs MV_4 of mission & vision dimension of Context factor of B.Ed. programme.

Based on the percentages of PTs corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.21), it is found that the maximum percentage of pupil teachers opted the option agree and strongly agree which results to the positive impact of the four statements of dimension mission & vision of Context factor of B.Ed. programme on pupil teachers.
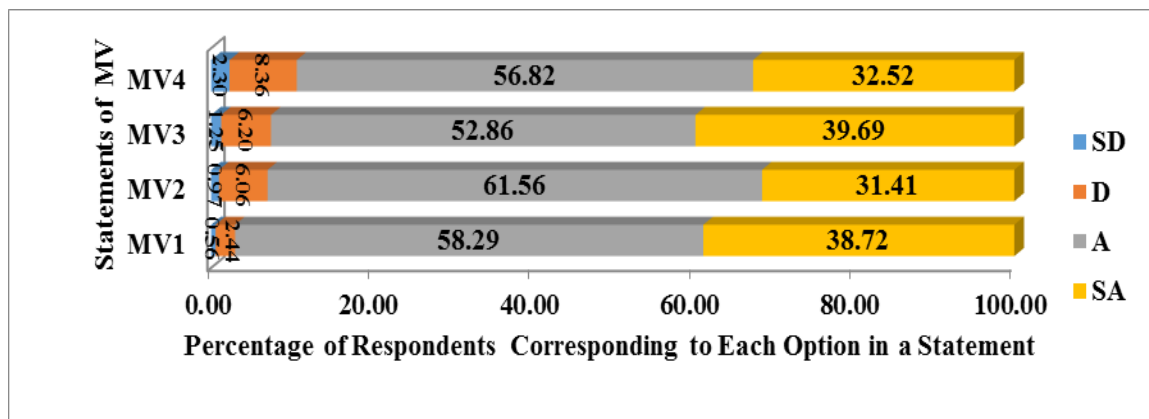
Figure 4.21:   Percentage of Responses of Pupil Teachers Corresponding to Each Option of Mission & Vision Statements

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in table 4.15 and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of four statements of mission & vision dimension of Context factor of B.Ed. programme on pupil teachers.

Table 4.15

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Four Statements of Mission & Vision Dimension of Context Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements ⟶			MV_1	MV_2	MV_3	MV_4
↓	N_n ↓ $\%_n$ ↓	N_p ⟶ $\%_p$ ⟶	1393 97.01	1335 92.97	1329 92.55	1283 89.35
MV_1	43 2.99		$t = 35.63^{**}$	-	-	-
MV_2	101 7.03		-	$t = 32.56^{**}$	-	-
MV_3	107 7.45		-	-	$t = 32.25^{**}$	-
MV_4	153 10.65		-	-	-	$t = 29.82^{**}$

N_p ($\%_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n ($\%_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and $^{**} \alpha = .01$
MV_1 (Develops prospective teachers into a competent professional); MV_2 (Emphasizes on the holistic development of prospective teachers); MV_3 (Develops skills to deal with the diverse problems of class in them); and MV_4 (Develops inclusive competencies to deal with diverse students).

There are significant differences between the percentage of pupil teachers, who have a positive and negative impact, in all the four statements (i.e. MV_1, MV_2, MV_3, and MV_4), as the value of t = 35.63, 32.56, 32.25, and 29.82 are significant at $\alpha = .01$ (table 4.15). Therefore, all four statements have a significantly more positive impact on pupil teachers as compared to their negative impact. Thus, H_o stands not accepted for statements MV_1, MV_2, MV_3, and MV_4 of mission & vision dimension of Context factor of B.Ed. programme.

4.1.1.8 Statementwise Analysis of Data of Programme Objectives Dimension of Context Factor of Impact of B.Ed. Programme on Pupil Teachers

The synthetic indexes for the four statements related to Programme Objectives (PO) dimension of the impact of B.Ed. programme are 3.26, 3.19, 3.27 and 3.12 as mean

values; and .67, .66, .64 & .74 as standard deviation values (table 4.16); which indicates that there is positive impact of the four statements on pupil teachers. The arrangement of mean values in descending order of their impact on pupil teachers is as follows:

$$PO_3 (3.27) > PO_1 (3.26) > PO_2 (3.19) > PO_4 (3.12)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the two statements i.e. PO_3 (Link school knowledge with community life) and PO_1 (Focuses upon the practical aspects of teaching and learning process) have more impact on pupil teachers as compared to other two statements i.e. PO_2 (Emphasizes on rigorous teaching internship practice) and PO_4 (Increases employment opportunities for prospective teachers) as programme objectives dimension of Context factor of B.Ed. programme.

Table 4.16

Means Matrix Showing Significance of Difference in Means of Four Statements of Programme Objectives Dimension of Context Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements ⟶			PO_3	PO_1	PO_2	PO_4
	M ⟶		3.27	3.26	3.19	3.12
	SD ↓		.64	.67	.66	.74
PO_3	3.27	r	-	$.28^{**}$	$.17^{**}$	$.28^{**}$
	.64	t		$.40$	3.83^{**}	6.97^{**}
PO_1	3.26	r		-	$.18^{**}$	$.24^{**}$
	.67	t			3.39^{**}	6.31^{**}
PO_2	3.19	r			-	$.25^{**}$
	.66	t				3.02^{**}
PO_4	3.12	r				-
	.74	t				

**** $\alpha = .01$
PO_1 (Focuses upon the practical aspects of teaching and learning process); PO_2 (Emphasizes on rigorous teaching internship practice); PO_3 (Link school knowledge with community life); and PO_4 (Increases employment opportunities for prospective teachers)

The significance of the difference between these means have been compared and shown in the means matrix presented in the table 4.16 and tested against the following null hypothesis:

H$_o$:   There is no significant difference in the impact of four statements of programme objectives dimension of Context factor of B.Ed. programme on pupil teachers.

There are significant differences in the impact of the five comparisons between means of responses for the statement PO$_3$ over the statements PO$_2$ and PO$_4$, as the values of t $_{(1435)}$ = 3.83 and 6.97 are significant at α = .01; for the statement PO$_1$ over the statements PO$_2$ and PO$_4$, as the values of t $_{(1435)}$ = 3.39 and 6.31 are significant at α = .01; for the statement PO$_2$ over the statement PO$_4$, as the value of t $_{(1435)}$ = 3.02 is significant at α = .01; and there is a non-significant difference in the impact of comparison between means of responses for the statements PO$_3$ vs PO$_1$, as the value of t $_{(1435)}$ = .40 is non-significant at α = .05 (table 4.16). Therefore, the statements PO$_3$ (M$_{PO3}$ = 3.27) and PO$_1$ (M$_{PO1}$ = 3.26) have significantly more impact on pupil teachers as compared to the statements PO$_2$ (M$_{PO2}$ = 3.19) and PO$_4$ (M$_{PO4}$ = 3.12); and the statement PO$_2$ (M$_{PO2}$ = 3.19) has significantly more impact on pupil teachers as compared to the statement PO$_4$ (M$_{PO4}$ = 3.12). On the other hand, the statements PO$_3$ vs PO$_1$ have no significant difference in the impact on pupil teachers. Thus, H$_o$ stands not accepted for the five comparisons between means of responses to the statements PO$_3$ vs PO$_2$; PO$_3$ vs PO$_4$; PO$_1$ vs PO$_2$; PO$_1$ vs PO$_4$; and PO$_2$ vs PO$_4$ whereas H$_o$ stands accepted for a comparison between means of responses to the statements PO$_3$ vs PO$_1$ of programme objectives dimension of Context factor of B.Ed. programme.

Based on the percentages of pupil teachers corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.22), it is found that the maximum percentage of pupil teachers opted the option agree and strongly agree which results to the positive impact of the four statements of dimension programme objectives of the Context factor of B.Ed. programme on pupil teachers.
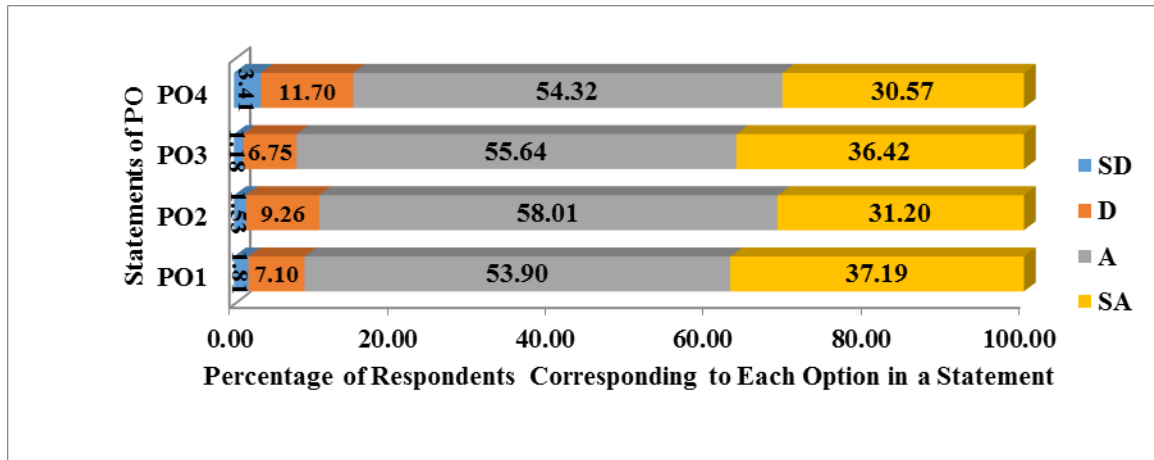
Figure 4.22: **Percentage of Responses of Pupil Teachers Corresponding to Each Option of Programme Objectives Statements**

Table 4.17

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Four Statements of Programme Objectives Dimension of Context Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements ⟶			PO_1	PO_2	PO_3	PO_4
↓	N_n ↓ %$_n$ ↓	N_p ⟶ %$_p$	1308 91.09	1281 89.21	1322 92.06	1219 84.89
PO_1	128 8.91		$t = 31.14^{**}$	-	-	-
PO_2	155 10.79		-	$t = 29.71^{**}$	-	-
PO_3	114 7.94		-	-	$t = 31.88^{**}$	-
PO_4	217 15.11		-	-	-	$t = 26.44^{**}$

*N_p (%$_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n (%$_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01*
PO_1 (Focuses upon the practical aspects of teaching and learning process); PO_2 (Emphasizes on rigorous teaching internship practice); PO_3 (Link school knowledge with community life); and PO_4 (Increases employment opportunities for prospective teachers)

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in the table 4.17 and tested against the following null hypothesis:

H$_o$:   There is no significant difference in the positive and negative impact of four statements of programme objectives dimension of Context factor of B.Ed. Programme on pupil teachers.

There are significant differences between the percentage of pupil teachers, who have a positive and negative impact, in all the four statements (i.e. PO$_1$, PO$_2$, PO$_3$, and PO$_4$), as the values of t = 31.14, 29.71, 31.88, and 26.44 are significant at α = .01 (table 4.17). Therefore, all four statements have a significantly more positive impact on pupil teachers as compared to their negative impact. Thus, H$_o$ stands not accepted for statements PO$_1$, PO$_2$, PO$_3$, and PO$_4$ of programme objectives dimension of Context factor of B.Ed. programme.

4.1.1.9 Statementwise Analysis of Data of Academic Input Dimension of Input Factor of Impact of B.Ed. Programme on Pupil Teachers

The synthetic indexes, for the three statements related to the Academic Input (AI) dimension of the impact of B.Ed. programme, are 3.15, 3.14, and 3.07 as mean values; and .73, .66 and.76 as standard deviation values (table 4.17); which indicates that there is a positive impact of the three statements on pupil teachers. The arrangement of mean values in descending order of their impact on pupil teachers is as follows:

$$AI_1 (3.15) > AI_2 (3.14) > AI_3 (3.07)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the two statements i.e. AI$_1$ (All activities of B.Ed. programme are included in the academic calendar) and AI$_2$ (Subject-specific field-based assignments are allocated in B.Ed. programme) have more impact on pupil teachers as compared to another statement i.e. AI$_3$ (Diverse projects are assigned in B.Ed. programme) as academic input dimension of Input factor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented below (table 4.18) and tested against the following null hypothesis:

H₀: There is no significant difference in the impact of three statements of academic input dimension of Input factor of B.Ed. programme on pupil teachers.

Table 4.18

Means Matrix Showing Significance of Difference in Means of Three Statements of Academic Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements ⟶			AI_1	AI_2	AI_3
	M ⟶		3.15	3.14	3.07
	SD ↓		.73	.66	.76
AI_1	3.15	**r**	-	$.28^{**}$	$.60^{**}$
	.73	**t**		.57	3.31^{**}
AI_2	3.14	**r**		-	$.25^{**}$
	.66	**t**			2.80^{**}
AI_3	3.07	**r**			-
	.76	**t**			

$^{**} α = .01$

AI₁ (All activities of B.Ed. programme are included in the academic calendar); AI₂ (Subject-specific field-based assignments are allocated in B.Ed. programme) and AI₃ (Diverse projects are assigned in B.Ed. programme)

There are significant differences in the impact of the two comparisons between means of responses for the statements AI_1 and AI_2 over the statement AI_3, as the values of $t_{(1435)} = 3.31$ and 2.80 are significant at $α = .01$ and there is a non-significant difference in the impact of comparison between means of responses for the statements AI_1 vs AI_2, as the value of $t_{(1435)} = .57$ is non-significant at $α = .05$ (table 4.18). Therefore, the higher mean score of AI_1 ($M_{AI1} = 3.15$) and AI_2 ($M_{AI2} = 3.14$) both indicate that AI_1 and AI_2 have significantly more impact on pupil teachers as compared to AI_3 ($M_{AI3} = 3.07$). On the other hand, the statements AI_1 and AI_2 have no significant difference in the impact on pupil teachers. Thus, H₀ stands not accepted for two comparisons between means of responses to the statements AI_1 vs AI_3 and AI_2 vs AI_3 whereas H₀ stands accepted for a comparison between means of responses to the statements AI_1 and AI_2 of academic input dimension of Input factor of B.Ed. programme.
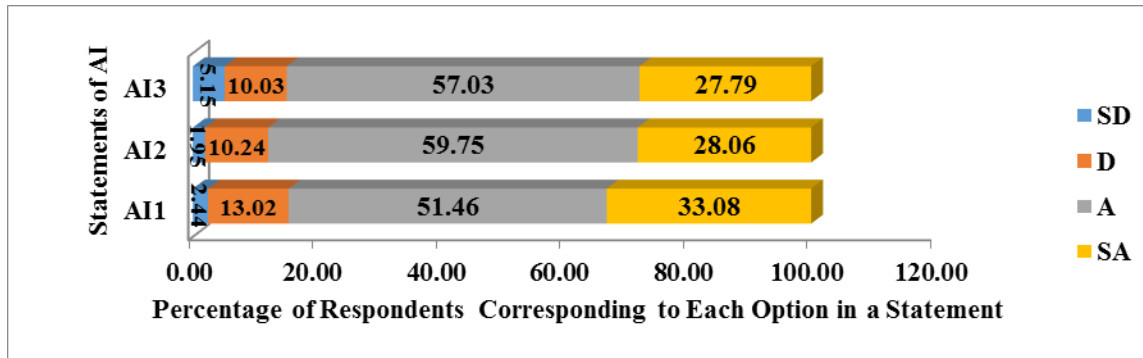
Figure 4.23: **Percentage of Responses of Pupil Teachers Corresponding to Each Option of Academic Input Statements**

Based on the percentages of pupil teachers corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.23), it is found that the maximum percentage of pupil teachers opted the option agree and strongly agree which results to the positive impact of the four statements of dimension academic input of Input factor of B.Ed. programme on pupil teachers.

Table 4.19

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Three Statements of Academic Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements →			AI_1	AI_2	AI_3
↓	N_n ↓ $\%_n$ ↓	N_p → $\%_p$ →	1214 84.54	1261 87.81	1218 84.82
AI_1	222 15.46		t =26.18**	-	-
AI_2	175 12.19		-	t =28.66**	-
AI_3	218 26.39		-	-	t =26.39**

*N_p (%$_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n (%$_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01*
AI_1 (All activities of B.Ed. programme are included in the academic calendar); AI_2 (Subject-specific field-based assignments are allocated in B.Ed. programme) and AI_3 (Diverse projects are assigned in B.Ed. programme)

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in the table 4.19 and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of three statements of academic input dimension of Input factor of B.Ed. programme on pupil teachers.

There are significant differences between the percentage of pupil teachers, who have a positive and negative impact, in all the three statements (i.e. AI_1, AI_2, and AI_3), as the values of t = 26.18, 28.66, and 26.39 are significant at α = .01 (table 4.19). Therefore, all three statements have a significantly more positive impact on the pupil teachers as compared to their negative impact. Thus, H_o stands not accepted for the statements AI_1, AI_2, and AI_3 of academic input dimension of Input factor of B.Ed. programme.

4.1.1.10   Statementwise Analysis of Data of Resource Input Dimension of Input Factor of Impact of B.Ed. Programme on Pupil Teachers

The synthetic indexes for the three statements related to the Resource Input (RI) dimension of the impact of B.Ed. programme are 3.22, 3.02, and 3.06 as mean values; and .67, .66, .64, and .74 as standard deviation values (table 4.20); which indicates that there is a positive impact of the three statements on pupil teachers. The arrangement of mean values in descending order of their impact on pupil teachers is as follows:

$$RI_1 \ (3.22) > RI_3 \ (3.06) > RI_2 \ (3.02)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement RI_1 (Library resources are easily accessible in B.Ed. programme) has more impact on pupil teachers as compared to the other two statements i.e. RI_3 (Learning resource centers/labs are available) and RI_2 (Modern learning facilities for teaching are available in B.Ed. programme) as resource input (RI) dimension of Inputfactor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented below (table 4.20) and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of three statements of resource input dimension of Input factor of B.Ed. programme on pupil teachers.

Table 4.20

Means Matrix Showing Significance of Difference in Means of Three Statements of the Resource Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements ⟶			RI_1	RI_3	RI_2
	M		3.22	3.06	3.02
	SD		.78	.82	.86
RI_1	3.22 .78	r t	-	$.35^{**}$ 6.80^{**}	$.31^{**}$ 8.02^{**}
RI_3	3.06 .82	r t		-	$.47^{**}$ 1.80
RI_2	3.02 .86	r t			-

$^{**} \alpha = .01$

RI_1 (Library resources are easily accessible in B.Ed. programme); RI_2 (Modern learning facilities for teaching are available in B.Ed. programme); and RI_3 (Learning resource centers/labs are available)

There are significant differences in the impact of the two comparisons between means of responses for the statement RI_1 over the statements RI_3 and RI_2, as the values of $t_{(1435)}$ = 6.80 and 8.02 are significant at α = .01; and there is a non-significant difference in the impact of comparison between means of responses for the statements RI_3 vs RI_2, as the value of $t_{(1436)}$ = 1.80 is non-significant at α = .05 (table 4.20). Therefore, the higher mean score of RI_1 (M_{RI1} = 3.22) indicates that RI_1 has significantly more impact on the pupil teachers as compared to RI_3 (M_{RI3} = 3.06) and RI_2 (M_{RI2} = 3.02). On the other hand, the statements RI_3 vs RI_2 have no significant difference in the impact on pupil teachers. Thus, H_o stands not accepted for the two comparisons between means of responses to the statements RI_1 vs RI_3 and RI_1 vs RI_2 whereas H_o stands accepted for a comparison

between means of responses to the statements RI_3 vs RI_2 of resource input (RI) dimension of Input factor of B.Ed. programme.
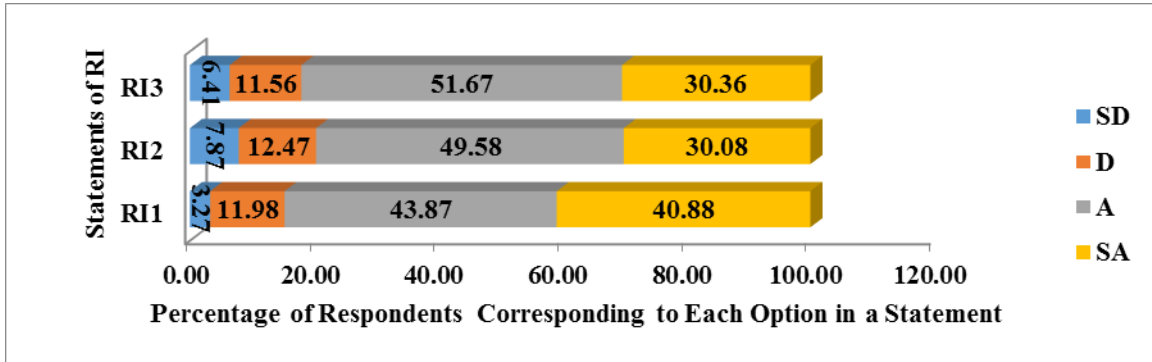
Figure 4.24: **Percentage of Responses of Pupil Teachers Corresponding to Each Option of Resource Input Statements**

Based on the percentages of pupil teachers corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.24), it is found that the maximum percentage of pupil teachers opted the option agree (A) and strongly agree (SA) which results to the positive impact of the three statements of dimension resource input (RI) of Input factor of B.Ed. programmeon pupil teachers.

Table 4.21

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Three Statements of Resource Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements ⟶			RI_1	RI_2	RI_3
↓	N_n ↓ $\%_n$ ↓	N_p ⟶ $\%_p$ ⟶	1217 84.75	1144 79.67	1178 82.03
RI_1	219 15.25		t =26.34**	-	-
RI_2	292 20.33		-	t =22.48**	-
RI_3	258 17.97		-	-	t =24.28**

*N_p ($\%_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n ($\%_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01*
RI_1 (Library resources are easily accessible in B.Ed. programme); RI_2 (Modern learning facilities for teaching are available in B.Ed. programme); and RI_3 (Learning resource centers/labs are available)

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in the table 4.21 and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of three statements of resource input dimension of Input factor of B.Ed. programme on pupil teachers.

There are significant differences between the percentage of pupil teachers, who have a positive and negative impact, in all the three statements (i.e. RI_1, RI_2, and RI_3), as the values of t = 26.34, 22.48, and 24.28 are significant at α = .01 (table 4.21). Therefore, all three statements have a significantly more positive impact on pupil teachers as compared to their negative impact. Thus, H_o stands not accepted for statements RI_1, RI_2, and RI_3 of resource input (RI) dimension of Input factor of B.Ed. programme.

4.1.1.11   Statementwise Analysis of Data of Training Input Dimension of Input Factor of Impact of B.Ed. Programme on Pupil Teachers

The synthetic indexes for the six statements related to the Training Input (TI) dimension of the impact of B.Ed. programme are 3.24, 3.20, 3.24, 3.08, 3.31 and 2.86 as mean values; and .64, .70, .69, .79, .72 & .86 as standard deviation values (table 4.22); which indicates that there is positive impact of six statements on pupil teachers. The arrangement of mean values in descending order of their impact on pupil teachers is as follows:

$$TI_5\ (3.31) > TI_3\ (3.24) = TI_1\ (3.24) > TI_2\ (3.20) > TI_4\ (3.08) > TI_6\ (2.86)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement TI_5 (Rigorous teaching internship for 14 weeks is organized in schools) has more impact on pupil teachers as compared to the other five statements i.e. TI_3 (Roles and responsibilities of teaching intern are clearly defined in B.Ed. programme); TI_1 (Teaching skill inputs are given through simulated teaching in B.Ed. programme); TI_2 (Teaching internship handbook/guidelines are provided in B.Ed. programme); TI_4 (Two weeks fieldwork is organized in schools); and TI_6 (Extra inputs for

state/center level teacher eligibility test are given) as training input (TI) dimension of Inputfactor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.22 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of six statements of training input dimension of Input factor of B.Ed. programme on pupil teachers.

Table 4.22

Means Matrix Showing Significance of Difference in Means of Six Statements of Training Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements ⟶			TI_5	TI_3	TI_1	TI_2	TI_4	TI_6
	M ⟶		3.31	3.24	3.24	3.20	3.08	2.86
↓	**SD** ↓		.72	.69	.64	.70	.79	.86
TI_5	3.31 .72	r	-	.28**	.20**	.20**	.27**	.07**
		t		3.27**	2.95**	4.88**	9.45**	16.02**
TI_3	3.24 .69	r		-	.25**	.36**	.18**	.28**
		t			.29	2.05*	6.14**	15.43**
TI_1	3.24 .64	r			-	.27**	.13**	.20**
		t				2.27*	6.43**	15.25**
TI_2	3.20 .70	r				-	.25**	.28**
		t					4.66*	13.68**
TI_4	3.08 .79	r					-	.26**
		t						8.52**
TI_6	2.86 .86	r						-
		t						

** $\alpha = .01$ and * $\alpha = .05$

TI_1 (Teaching skill inputs are given through simulated teaching in B.Ed. programme); TI_2 (Teaching internship handbook/guidelines are provided in B.Ed. programme); TI_3 (Roles and responsibilities of teaching intern are clearly defined in B.Ed. programme); TI_4 (Two weeks fieldwork is organized in schools); TI5 (Rigorous teaching internship for 14 weeks is organized in schools) and TI6 (Extra inputs for state/center level teacher eligibility test are given)

There are significant differences in the impact of the fourteen comparisons between means of responses for the statement TI_5 over the statements TI_3, TI_1, TI_2, TI_4 and TI_6, as

the values of t $_{(1435)}$ = 3.27, 2.95, 4.88, 9.45 and 16.02 are significant at α = .01; for the statement TI$_3$ over the statements TI$_2$, TI$_4$ and TI$_6$, as the values of t $_{(1435)}$ = 2.05, 6.14 and 15.43 are significant at α = .05 and .01; for the statement TI$_1$ over the statements TI$_2$, TI$_4$ and TI$_6$, as the values of t $_{(1435)}$ = 2.27, 6.43 and 15.25 are significant at α = .05 and .01; for the statement TI$_2$ over the statements TI$_4$ and TI$_6$, as the values of t $_{(1435)}$ = 4.66 and 13.68 are significant at α = .01; and TI$_4$ over the statement TI$_6$, as the value of t $_{(1435)}$ = 8.52 is significant at α = .01; and there is non-significant difference in the impact of a comparison between means of responses for the statements TI$_3$ vs TI$_1$, as the value of t $_{(1435)}$ = .29 is non-significant at α = .05 (table 4.22). Therefore, the statement TI$_5$ (M$_{TI5}$ = 3.31) has significantly moreimpact on pupil teachers as compared to statements TI$_3$ (M$_{TI3}$ = 3.24), TI$_1$ (M$_{TI1}$ = 3.24), TI$_2$ (M$_{TI2}$ = 3.20), TI$_4$ (M$_{TI4}$ = 3.08) and TI$_6$ (M$_{TI6}$ = 2.86); the statements TI$_3$ (M$_{TI3}$ = 3.24) and TI$_1$ (M$_{TI1}$ = 3.24) have significantly moreimpact on pupil teachers as compared to statements TI$_2$ (M$_{TI2}$ = 3.20), TI$_4$ (M$_{TI4}$ = 3.08) and TI$_6$ (M$_{TI6}$ = 2.86); the statement TI$_2$ (M$_{TI2}$ = 3.20) has significantly moreimpact on pupil teachers as compared to statements TI$_4$ (M$_{TI4}$ = 3.08) and TI$_6$ (M$_{TI6}$ = 2.86); and the statement TI$_4$ (M$_{TI4}$ = 3.08) has significantly moreimpact on pupil teachers as compared to statement TI$_6$ (M$_{TI6}$ = 2.86). On the other hand, the statements TI$_3$ vs TI$_1$ have no significant difference in the impact on pupil teachers. Thus, H$_o$ stands not accepted for the fourteen comparisons between means of responses to the statements TI$_5$ vs TI$_3$;TI$_5$ vs TI$_1$;TI$_5$ vs TI$_2$;TI$_5$ vs TI$_4$;TI$_5$ vs TI$_6$; TI$_3$ vs TI$_2$;TI$_3$ vs TI$_4$;TI$_3$ vs TI$_6$; TI$_1$ vs TI$_2$;TI$_1$ vs TI$_4$; TI$_1$ vs TI$_6$; TI$_2$ vs TI$_4$;TI$_2$ vs TI$_6$; and TI$_4$ vs TI$_6$ whereas H$_o$ stands accepted for a comparisons of means of responses to the statements TI$_3$ vs TI$_1$ of training input (TI) dimension of Input factor of B.Ed. programme.

Based on the percentages of PTs corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.25), it is found that the maximum percentage of pupil teachers opted the option agree (A) and strongly agree (SA) which results to the positive impact of the six statements of dimension training input of Input factor of B.Ed. programme on pupil teachers.
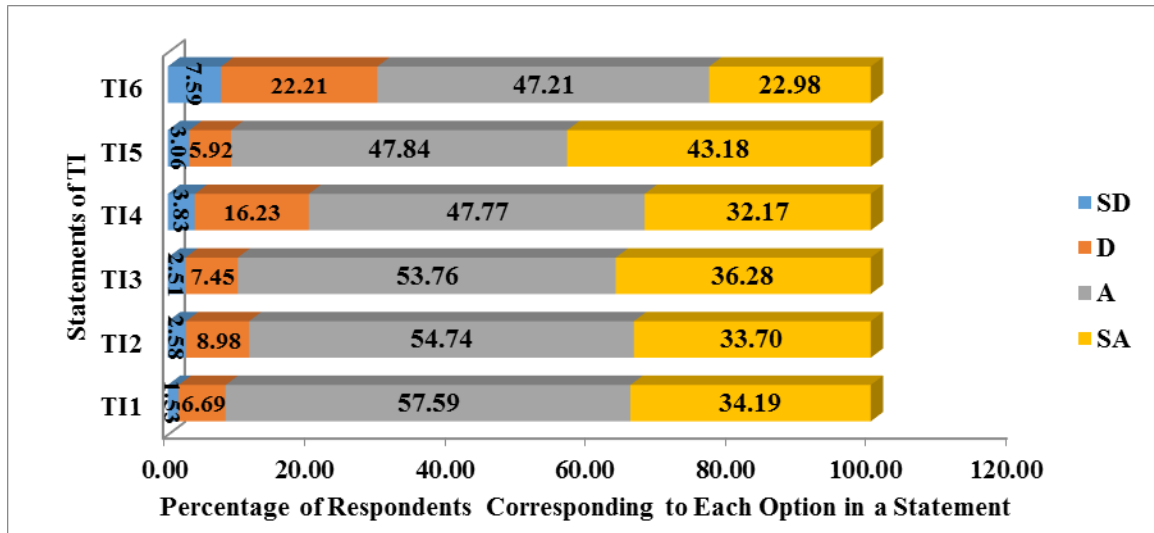
Figure 4.25: Percentage of Responses of Pupil Teachers Corresponding to Each Option of Training Input Statements

Table 4.23

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Six Statements of Training Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements ⟶			TI_1	TI_2	TI_3	TI_4	TI_5	TI_6
↓	N_n ↓ $\%_n$ ▼	N_p ⟶ $\%_p$ ⟶	1318 91.78	1270 88.44	1293 90.04	1148 79.94	1307 91.02	1008 70.19
TI_1	118 8.22		t = 31.67**	-	-	-	-	-
TI_2	166 11.56		-	t = 29.13**	-	-	-	-
TI_3	143 9.96		-	-	t = 30.35**	-	-	-
TI_4	288 20.06		-	-	-	t = 22.69**	-	-
TI_5	129 8.98		-	-	-	-	t = 31.09**	-
TI_6	428 29.81		-	-	-	-	-	t = 15.31**

*N_p ($\%_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n ($\%_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and** α = .01*

TI_1 (Teaching skill inputs are given through simulated teaching in B.Ed. programme); TI_2 (Teaching internship handbook/guidelines are provided in B.Ed. programme); TI_3 (Roles and responsibilities of

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teaching intern are clearly defined in B.Ed. programme); TI$_4$ (Two weeks fieldwork is organized in schools); TI5 (Rigorous teaching internship for 14 weeks is organized in schools) and TI6 (Extra inputs for state/center level teacher eligibility test are given)

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in table 4.23 and tested against the following null hypothesis:

H$_o$:   There is no significant difference in the positive and negative impact of six statements of training input dimension of Input factor of B.Ed. programme on pupil teachers.

There are significant differences between the percentage of pupil teachers, who have a positive and negative impact, in all the six statements (i.e. TI$_1$, TI$_2$, TI$_3$, TI$_4$, TI$_5$, and TI$_6$), as the values of t = 31.67, 29.13, 30.35, 22.69, 31.09 and 15.31 are significant at α = .01 (table 4.23). Therefore, all the six statements have a significantly more positive impact on the pupil teachers as compared to their negative impact. Thus, H$_o$ stands not accepted for statements TI$_1$, TI$_2$, TI$_3$, TI$_4$, TI$_5$, and TI$_6$ of training input (TI) dimension of Input factor of B.Ed. programme.

4.1.1.12   Statementwise Analysis of Data of Professional Input Dimension of Input Factor of Impact of B.Ed. Programme on Pupil Teachers

The synthetic indexes for the two statements related to the Professional Input (PI) dimension of the impact of B.Ed. programme are 3.17 and 3.06 as mean values; and .76 & .71 as standard deviation values (table 4.24); which indicates that there is a positive impact of two statements on pupil teachers. The mean value of the ratings for statement PI$_1$ (3.17) is higher than the statement PI$_2$ (3.06).

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement PI$_1$ (Different professional activities are organized for enhancing professional capacities) has more impact on pupil teachers as compared to the statement PI$_2$ (Collaborative partnership with the community is set up in B.Ed. programme) as professional input (PI) dimension of Input factor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented below (table 4.24) and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of two statements of professional input dimension of Input factor of B.Ed. programme on pupil teachers.

Table 4.24

Means Matrix Showing Significance of Difference in Means of Two Statements of Profesional Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements			PI_1	PI_2
	M		3.17	3.06
	SD		.76	.71
PI_1	3.17	r	-	.31**
	.76	t		5.17**
PI_2	3.06	r		-
	.71	t		

** $\alpha = .01$

PI_1 (Different professional activities are organized for enhancing professional capacities) and PI_2 (Collaborative partnership with the community is set up in B.Ed. programme)

There is a significant difference in the impact of comparison between means of responses for the statement PI_1 over the statements PI_2, as the value of t $_{(1435)}$ = 5.17 is significant at $\alpha = .01$ (table 4.24). Therefore, the higher mean score of PI_1 (M_{PI1} = 3.17) indicates that PI_1 has significantly more impact on pupil teachers as compared to PI_2 (M_{PI2} = 3.06). Thus, H_o stands not accepted for a comparison between means of responses to the statements PI_1 vs PI_2 of professional input dimension of Input factor of B.Ed. programme. Based on the percentages of pupil teachers corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.26), it is found that the maximum percentage of pupil teachers opted the option agree (A) and strongly agree (SA) which results to the positive impact of the two statements of dimension professional input (PI) of Input factor of B.Ed. programme on pupil teachers.
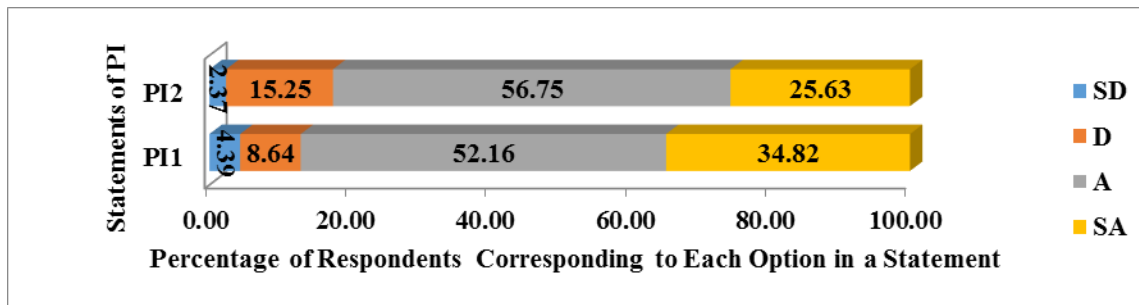
Figure 4.26: **Percentage of Responses of Pupil Teachers Corresponding to Each Option of Professional Input Statements**

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in the table 4.25 and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of two statements of professional input dimension of Input factor of B.Ed. programme on pupil teachers.

Table 4.25

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Two Statements of Professional Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements ⟶			PI_1	PI_2
↓	N_n ↓ $\%_n$ ↓	N_p ⟶ $\%_p$	1249 86.98	1183 82.38
PI_1	187 13.02		$t = 28.03^{**}$	-
PI_2	253 17.62		-	$t = 24.54^{**}$

N_p (%$_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n (%$_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01
PI_1 (Different professional activities are organized for enhancing professional capacities) and PI_2 (Collaborative partnership with the community is set up in B.Ed. programme)

There are significant differences between the percentage of pupil teachers, who have a positive and negative impact, in both the statements (i.e. PI_1 and PI_2), as the values of t = 28.03 and 24.54 are significant at α = .01 (table 4.25). Therefore, both the statements

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have a significantly more positive impact on the pupil teachers as compared to their negative impact. Thus, H_o stands not accepted for statements PI_1 and PI_2 of professional input (PI) dimension of Input factor of B.Ed. programme.

4.1.1.13   Statementwise Analysis of Data of Curriculum Transaction Process Dimension of Process Factor of Impact of B.Ed. Programme on Pupil Teachers

The synthetic indexes for the seven statements related to the Curriculum Transaction Process (CTP) dimension of the impact of B.Ed. programme are 3.36, 3.07, 2.94, 3.08, 3.28, 3.10 and 3.29 as mean values; and .63, .73, .87, .73, .67, .74 & .67 as standard deviation values (table 4.26); which indicates that there is positive impact of the seven statements on pupil teachers. The arrangement of mean values in descending order of their impact on pupil teachers is as follows:

$$CTP_1 (3.36) > CTP_7 (3.29) > CTP_5 (3.28) > CTP_6 (3.10) > CTP_4 (3.08) > CTP_2 (3.07) > CTP_3 (2.94)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement CTP_1 (Real-life experiences are being shared in the classroom) has more impact on pupil teachers as compared to the other six statements i.e. CTP_7 (Different academic and non-academic activities are being performed during teaching internship); CTP_5 (Role of teacher, students, and the observer is being performed in simulated teaching practice); CTP_6 (Classroom teaching evaluation is being done daily in teaching practice); CTP_4 (Field-based academic tasks are being conducted); CTP_2 (Remedial measures are being provided as per their needs the students); and CTP_3 (E-resources are being used in classroom teaching) as curriculum transaction process (CTP) dimension of Process factor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.26 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of seven statements of curriculum transaction process dimension of Process factor of B.Ed. programme on pupil teachers.

Table 4.26

Means Matrix Showing Significance of Difference in Means of Seven Statements of Curriculum Transaction Process Dimension of Process Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements ⟶			CTP_1	CTP_7	CTP_5	CTP_6	CTP_4	CTP_2	CTP_3
	M ⟶		3.36	3.29	3.28	3.10	3.08	3.07	2.94
	SD ↓		.63	.67	.67	.74	.73	.73	.87
CTP_1	3.36 .63	r	-	.27**	.29**	.28**	.28**	.28**	.22**
		t		3.53**	4.13**	11.97**	13.02**	13.33**	16.56**
CTP_7	3.29 .67	r		-	.35**	.28**	.21**	.22**	.18**
		t			.55	8.33**	8.91**	9.32**	12.99**
CTP_5	3.28 .67	r			-	.26**	.19**	.23**	.14**
		t				7.78**	8.40**	8.91**	12.35**
CTP_6	3.10 .74	r				-	.36**	.35**	.35**
		t					.98	1.35	6.42**
CTP_4	3.08 .73	r					-	.41**	.43**
		t						.40	5.88**
CTP_2	3.07 .73	r						-	.47**
		t							5.75**
CTP_3	2.94 .87	r							-
		t							

** $\alpha = .01$

CTP_1 (Real-life experiences are being shared in the classroom); CTP_2 (Remedial measures are being provided as per their needs the students); CTP_3 (E-resources are being used in classroom teaching); CTP_4 (Field-based academic tasks are being conducted); CTP_5 (Role of teacher, students, and the observer is being performed in simulated teaching practice); CTP_6 (Classroom teaching evaluation is being done daily in teaching practice); and CTP_7 (Different academic and non-academic activities are being performed during teaching internship)

There are significant differences in the impact of the seventeen comparisons between means of responses for the statement CTP_1 over the statements CTP_7, CTP_5, CTP_6, CTP_4, CTP_2 and CTP_3, as the values of t $_{(1435)}$ = 3.53, 4.13, 11.97, 13.02, 13.33 and 16.56 are significant at $\alpha = .01$; for the statement CTP_7 and over the statements CTP_6, CTP_4, CTP_2 and CTP_3, as the values of t $_{(1435)}$ = 8.33, 8.91, 9.32 and 12.99 are significant at $\alpha = .01$;

for the statement CTP_5 over the statements CTP_6, CTP_4, CTP_2 and CTP_3, as the values of t $_{(1435)}$ = 7.78, 8.40, 8.91 and 12.35 are significant at α = .01; for the statement CTP_6 over the statements CTP_3, as the value of t $_{(1435)}$ = 6.42 is significant at α = .01; for the statement CTP_4 over the statements CTP_3, as the value of t $_{(1435)}$ = 5.88 is significant at α = .01; and for the statement CTP_2 over the statements CTP_3, as the value of t $_{(1435)}$ = 5.75 is significant at α = .01; and there are non-significant differences in the impact of the three comparisons between means of responses for the statements CTP_7 vs CTP_5; CTP_6 vs CTP_4; and CTP_4 vs CTP_2, as the values of t $_{(1435)}$ = .55, .98 and .40 are non-significant at α = .05 (table 4.26). Therefore, the statement CTP_1 (M_{AI1} = 3.36) has significantly moreimpact on pupil teachers as compared to statements CTP_7 (M_{CTP7} = 3.29), CTP_5 (M_{CTP5} = 3.28), CTP_6 (M_{CTP6} = 3.10), CTP_4 (M_{CTP4} = 3.08), CTP_2 (M_{CTP2} = 3.07) and CTP_3 (M_{CTP3} = 2.94); the statements CTP_7 (M_{CTP7} = 3.29) and CTP_5 (M_{CTP5} = 3.28) have significantly moreimpact on pupil teachers as compared to statements CTP_6 (M_{CTP6} = 3.10), CTP_4 (M_{CTP4} = 3.08), CTP_2 (M_{CTP2} = 3.07) and CTP_3 (M_{CTP3} = 2.94); the statements CTP_6 (M_{CTP6} = 3.10), CTP_4 (M_{CTP4} = 3.08) and CTP_2 (M_{CTP2} = 3.07) have significantly moreimpact on pupil teachers as compared to statement CTP_3 (M_{CTP3} = 2.94). On the other hand, the statements CTP_7 vs CTP_5; CTP_6 vs CTP_4; and CTP_4 vs CTP_2 have no significant difference in the impact on pupil teachers. Thus, H_o stands not accepted for the seventeen comparisons between means of responses to the statements CTP_1 vs CTP_7; CTP_1 vs CTP_5; CTP_1 vs CTP_6; CTP_1 vs CTP_4; CTP_1 vs CTP_2; CTP_1 vs CTP_3; CTP_7 vs CTP_6; CTP_7 vs CTP_4; CTP_7 vs CTP_2; CTP_7 vs CTP_3; CTP_5 vs CTP_6; CTP_5 vs CTP_4; CTP_5 vs CTP_2; CTP_5 vs CTP_3; CTP_6 vs CTP_3; CTP_4 vs CTP_3; and CTP_2 vs CTP_3 whereas H_o stands accepted for the three comparisons between means of responses to the statements CTP_7 vs CTP_5; CTP_6 vs CTP_4;and CTP_4 vs CTP_2 of curriculum transaction process (CTP) dimension of Process factor of B.Ed. programme.

Based on the percentages of pupil teachers corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.27), it is found that the maximum percentage of PTs opted the option agree (A) and strongly agree (SA) which results to the positive impact of the seven statements of

dimension curriculum transaction process of Process factor of B.Ed. programme on pupil teachers.
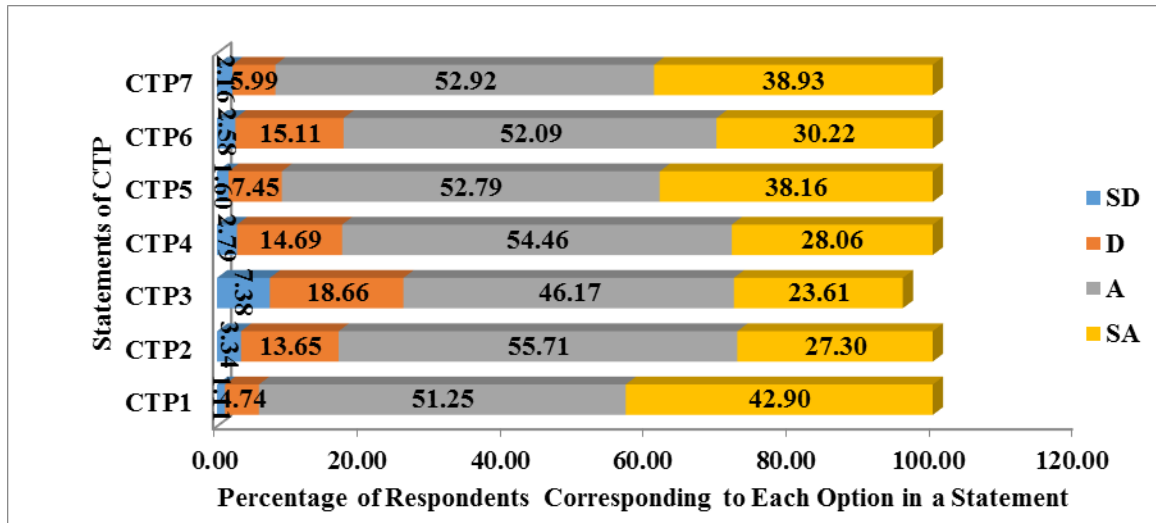
Figure 4.27: **Percentage of Responses of Pupil Teachers Corresponding to Each Option of Curriculum Transaction Process Statements**

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in table 4.27 and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of seven statements of curriculum transaction process dimension of Process factor of B.Ed. programme on pupil teachers.

There are significant differences between the percentage of pupil teachers, who have positive and negative impact in all the seven statements (i.e. CTP_1, CTP_2, CTP_3, CTP_1 vs CTP_1 vs CTP_4, CTP_5, CTP_6 and CTP_7) as the values of t = 33.46, 25.02, 16.93, 24.65, 31.03, 24.49 and 31.72 are significant at α = .01(table 4.27). Therefore, all the seven statements have a significantly more positive impact on pupil teachers as compared to their negative impact. Thus, H_o stands not accepted for statements CTP_1, CTP_2, CTP_3, CTP_1 vs CTP_1 vs CTP_4, CTP_5, CTP_6, and CTP_7 of curriculum transaction process (CTP) dimension of Process factor of B.Ed. programme.

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Table 4.27

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Seven Statements of Curriculum Transaction Process Dimension of Process Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements ⟶		$\frac{N_p}{\%_p}$ ⟶	CTP_1	CTP_2	CTP_3	CTP_4	CTP_5	CTP_6	CTP_7
↓	N_n ↓ $\%_n$ ↓		1352 94.15	1192 83.01	1002 69.78	1185 82.52	1306 90.95	1182 82.31	1319 91.85
CTP_1	84 5.85		t =33.46**	-	-	-	-	-	-
CTP_2	244 16.99		-	t =25.02**	-	-	-	-	-
CTP_3	374 26.04		-	-	t =16.93**	-	-	-	-
CTP_4	251 17.48		-	-	-	t =24.65**	-	-	-
CTP_5	130 9.05		-	-	-	-	t =31.03**	-	-
CTP_6	254 17.69		-	-	-	-	-	t =24.49**	-
CTP_7	117 8.15		-	-	-	-	-	-	t =31.72**

N_p ($\%_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n ($\%_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01

CTP_1 (Real-life experiences are being shared in the classroom); CTP_2 (Remedial measures are being provided as per their needs the students); CTP_3 (E-resources are being used in classroom teaching); CTP_4 (Field-based academic tasks are being conducted); CTP_5 (Role of teacher, students, and the observer is being performed in simulated teaching practice); CTP_6 (Classroom teaching evaluation is being done daily in teaching practice); and CTP_7 (Different academic and non-academic activities are being performed during teaching internship)

4.1.1.14   Statementwise Analysis of Data of Professional Process Dimension of Process Factor of Impact of B.Ed. Programme on Pupil Teachers

The synthetic indexes for the four statements related to the Professional Process (PP) dimension of the impact of B.Ed. programme are 3.09, 3.20, 3.06 and 2.93 as mean values; and .68, .72, .72 & .85 as standard deviation values (table 4.28); which indicates that there is positive impact of these four statements on pupil teachers. The arrangement of mean values in descending order of their impact on pupil teachers is as follows:

$$PP_2\ (3.20) > PP_1\ (3.09) > PP_3\ (3.06) > PP_4\ (2.93)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement PP_2 (Field visits to the school are being organized to develop an understanding about school systems) has more impact on pupil teachers as compared to the other three statements i.e. PP_1 (Case studies/projects are being conducted as strategies to sensitize about the community); PP_3 (Professional enhancement activities are being organized); and PP_4 (Inputs are being given for the preparation of Teacher Eligibility Test) as professional process (PP) dimension of Processfactor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in the table 4.28 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of four statements of professional process dimension of Process factor of B.Ed. programme on pupil teachers.

There are significant differences in the impact of the five comparisons between means of responses for the statement PP_2 over the statements PP_1, PP_3, and PP_4, as the values of $t_{(1435)} = 5.04$, 6.92, and 11.35 are significant at $\alpha = .01$; for the statements PP_1 and PP_3 over the statement PP_4, as the values of $t_{(1435)} = 6.40$ and 5.74 are significant at $\alpha = .01$; and there is a non-significant difference in the impact of comparison between means of responses for the statements PP_1 vs PP_3, as the value of $t_{(1435)} = 1.64$ is non-significant at $\alpha = .05$ (table 4.28).

Table 4.28

Means Matrix Showing Significance of Difference in Means of Four Statements of Professional Process Dimension of Process Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements ⟶			PP$_2$	PP$_1$	PP$_3$	PP$_4$
	M ⟶		3.20	3.09	3.06	2.93
⬇	**SD** ⬇		.72	.68	.72	.85
PP$_2$	3.20	r	-	.27**	.36**	.33**
	.72	t		5.04**	6.92**	11.35**
PP$_1$	3.09	r		-	.29**	.23**
	.68	t			1.64	6.40**
PP$_3$	3.06	r			-	.45**
	.72	t				5.74**
PP$_4$	2.93	r				-
	.85	t				

** $\alpha = .01$

PP$_1$ (Case studies/projects are being conducted as strategies to sensitize about the community); PP$_2$ (Field visits to the school are being organized to develop an understanding about school systems); PP$_3$ (Professional enhancement activities are being organized); and PP$_4$ (Inputs are being given for the preparation of Teacher Eligibility Test)

Therefore, the statement PP$_2$ (M$_{PP2}$ = 3.20) has significantly more impact on pupil teachers as compared to the statements PP$_1$ (M$_{PP1}$ = 3.09), PP$_3$ (M$_{PP3}$ = 3.06) and PP$_4$ (M$_{PP4}$ = 2.93); and the statements PP$_1$ (M$_{PP1}$ = 3.09) and PP$_3$ (M$_{PP3}$ = 3.06) have significantly more impact on PTs as compared to the statement PP$_4$ (M$_{PP4}$ = 2.93). On the other hand, the statements PP$_1$ vs PP$_3$ have no significant difference in the impact on pupil teachers. Thus, H$_o$ stands not accepted for the five comparisons between means of responses to the statements PP$_2$ vs PP$_1$; PP$_2$ vs PP$_3$; PP$_2$ vs PP$_4$; PP$_1$ vs PP$_4$; and PP$_3$ vs PP$_4$ whereas H$_o$ stands accepted for a comparison between means of responses to the statements PP$_1$ vs PP$_3$ of PP dimension of Process factor of B.Ed. programme.

Based on the percentages of pupil teachers corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.28), it is found that the maximum percentage of pupil teachers opted the option agree (A) and strongly agree (SA) which results to the positive impact of the four statements of dimension professional process of Process factor of B.Ed. programme on pupil teachers.
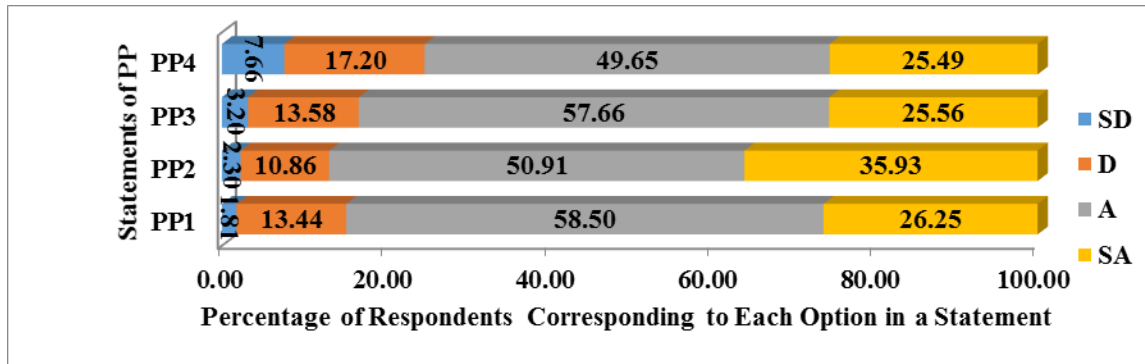
Figure 4.28: **Percentage of Responses of Pupil Teachers Corresponding to Each Option of Professional Process Statements**

Table 4.29

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Four Statements of Professional Process Dimension of Process Factor regarding Impact of B.Ed. programme on Pupil Teachers

Statements ⟶			PP_1	PP_2	PP_3	PP_4
↓	N_n ↓ %n ↓	N_p ⟶ %p ⟶	1217 84.75	1247 86.84	1195 83.22	1079 75.14
PP_1	219 15.25		**t =26.34**[**]	-	-	-
PP_2	189 13.16		-	**t =27.92**[**]	-	-
PP_3	241 16.78		-	-	**t =25.18**[**]	-
PP_4	357 24.86		-	-	-	**t =19.05**[**]

N_p (%p) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n (%n) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and [**] α = .01
PP_1 (Case studies/projects are being conducted as strategies to sensitize about the community); PP_2 (Field visits to the school are being organized to develop an understanding about school systems); PP_3 (Professional enhancement activities are being organized); and PP_4 (Inputs are being given for the preparation of Teacher Eligibility Test)

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in table 4.29 and tested against the following null hypothesis:

H$_o$:   There is no significant difference in the positive and negative impact of four statements of professional process dimension of Process factor of B.Ed. programme on pupil teachers.

There are significant differences between the percentage of pupil teachers, who have a positive and negative impact, in all the four statements (i.e.PP$_1$, PP$_2$, PP$_3$, and PP$_4$), as the values of t = 26.34, 27.92, 25.18, and 19.05 are significant at α = .01 (table 4.29). Therefore, all four statements have a significantly more positive impact on the pupil teachers as compared to their negative impact. Thus, H$_o$ stands not accepted for the statements PP$_1$, PP$_2$, PP$_3$, and PP$_4$ of professional process (PP) dimension of Process factor of B.Ed. programme.

4.1.1.15   Statementwise Analysis of Data of Training Process Dimension of Process Factor of Impact of B.Ed. Programme on Pupil Teachers

The synthetic indexes, for the three statements related to the Training Process (TP) dimension of the impact of B.Ed. programme, are 3.16, 3.00, and 2.81 as mean values; and .67, .70 & .83 as standard deviation values (table 4.30); which indicates that there is a positive impact of the three statements on pupil teachers. The arrangement of mean values in descending order of their impact on pupil teachers is as follows:

$$TP_1 (3.16) > TP_2 (3.00) > TP_3 (2.81)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement TP$_1$ (Constructive feedback is being given in simulated teaching practice) has more impact on pupil teachers as compared to the other two statements i.e. TP$_2$ (Service learning activities are being conducted in collaboration with the community) and TP$_3$ (Community projects are being conducted in collaboration with NGOs) as training process (TP) dimension of Process factor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.30 and tested against the following null hypothesis:

H$_o$:   There is no significant difference in the impact of three statements of training process dimension of Process factor of B.Ed. programme on pupil teachers.

Table 4.30

Means Matrix Showing Significance of Difference in Means of Three Statements of Training Process Dimension of Process Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements ⟶			TP_1	TP_2	TP_3
	M		3.16	3.00	2.81
	SD		.67	.70	.83
TP_1	3.16 .67	r t	-	.28** 7.40**	.23** 14.26**
TP_2	3.00 .70	r t		-	.45** 9.00**
TP_3	2.81 .83	r t			-

$^{**}\alpha = .01$

TP_1 (Constructive feedback is being given in simulated teaching practice); TP_2 (Service learning activities are being conducted in collaboration with the community); and TP_3 (Community projects are being conducted in collaboration with NGOs)

There are significant differences in the impact of the three comparisons between means of responses for the statement TP_1 over the statements TP_2 and TP_3, as the values of t $_{(1435)}$ = 7.40 and 14.26 are significant at α = .01; and for the statement TP_2 over the statement TP_3, as the value of t $_{(1435)}$ = 9.00 is significant at α = .01 (table 4.30). Therefore, the statement TP_1 (M_{TP1} = 3.16) has significantly more impact on pupil teachers as compared to the statements TP_2 (M_{TP2} = 3.00) and TP_3 (M_{TP3} = 2.81); and the statement TP_2 (M_{TP2} = 3.00) has significantly more impact on pupil teachers as compared to the statement TP_3 (M_{TP3} = 2.81). Thus, H_o stands not accepted for the three comparisons between means of responses to the statements TP_1 vs TP_2; TP_1 vs TP_3; and TP_2 vs TP_3 of the training process (TP) dimension of Process factor of B.Ed. programme. Based on the percentages of pupil teachers corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.29), it is found that the maximum percentage of pupil teachers opted the option agree (A) and strongly agree (SA) which results to the positive impact of the three statements of training process dimension of Process factor of B.Ed. programme on pupil teachers.
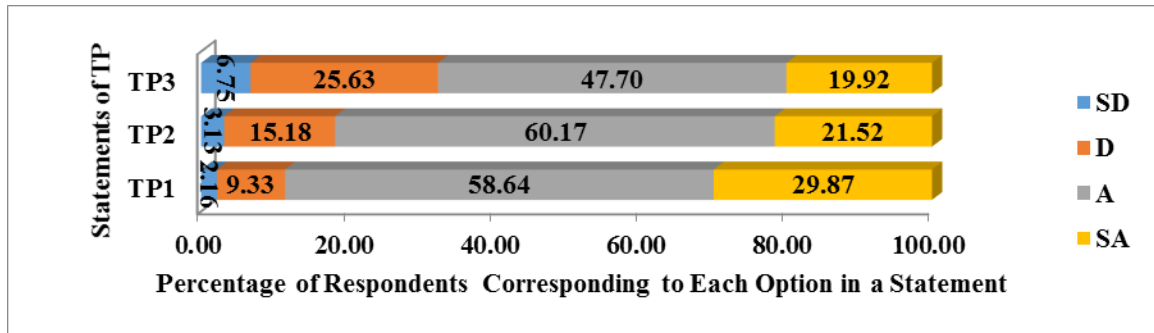
Figure 4.29: **Percentage of Responses of Pupil Teachers Corresponding to Each Option of Training Process Statements**

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented below (table 4.31) and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of three statements of training process dimension of Process factor of B.Ed. programme on pupil teachers.

Table 4.31

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Three Statements of Training Process Dimension of Process Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements ⟶			TP_1	TP_2	TP_3
↓	N_n ↓ $\%_n$ ↓	N_p ⟶ $\%_p$ ⟶	1271 88.51	1173 79.67	971 67.62
TP_1	165 11.49		t =29.19**	-	-
TP_2	263 18.31		-	t =24.01**	-
TP_3	465 32.38		-	-	t =13.35**

*N_p (%$_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n (%$_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01*
TP_1 (Constructive feedback is being given in simulated teaching practice); TP_2 (Service learning activities are being conducted in collaboration with the community); and TP_3 (Community projects are being conducted in collaboration with NGOs)

There are significant differences between the percentage of pupil teachers, who have a positive and negative impact, in all the three statements (i.e. TP_1, TP_2, and TP_3), as the values of t = 29.19, 24.01, and 13.35 are significant at α = .01 (table 4.31). Therefore, all three statements have a significantly more positive impact on the pupil teachers as compared to their negative impact. Thus, H_o stands not accepted for the statements TP_1, TP_2, and TP_3 of the training process (TP) dimension of Process factor of B.Ed. programme.

4.1.1.16   Statementwise Analysis of Data of Academic Process Dimension of Process Factor of Impact of B.Ed. Programme on Pupil Teachers

The synthetic indexes for the two statements related to the Academic Process (AP) dimension of the impact of B.Ed. programme are 3.07 and 2.97 as mean values; and .69 & .74 as standard deviation values (table 4.32); which indicates that there is a positive impact of the two statements on pupil teachers. The mean value of the ratings for statement AP_1 (3.07) is higher than the statement AP_2 (2.97).

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement AP_1 (Library resources are being consulted for content enrichment) has more impact on pupil teachers as compared to other statement AP_2 (Subject-specific competencies are being developed the use of learning resource centers) as the academic process (AP) dimension of Process factor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented below (table 4.32) and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of two statements of academic process dimension of Process factor of B.Ed. programme on pupil teachers.

There is a significant difference in the impact of comparison between means of responses for the statement AP_1 over the statement AP_2, as the value of $t_{(1435)}$ = 4.61 is significant at α = .01 (table 4.32).

Table 4.32

Means Matrix Showing Significance of Difference in Means of Two Statements of Academic Process Dimension of Process Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements →			AP_1	AP_2
	M		3.07	2.97
	SD		.69	.74
AP_1	3.07	r	-	**.39**[**]
	.69	t		**4.61**[**]
AP_2	2.97	r		-
	.74	t		

**[**] $\alpha = .01$

AP_1 (Library resources are being consulted for content enrichment) and AP_2 (Subject-specific competencies are being developed the use of learning resource centers)

Therefore, the higher mean score of AP_1 (M_{TP1} = 3.07) indicates that AP_1 has significantly more impact on pupil teachers as compared to AP_2 (M_{TP2} = 2.97). Thus, H_o stands not accepted for a comparison between means of responses to the statements AP_1 vs AP_2 of academic process (AP) dimension of Process factor of B.Ed. programme.

Based on the percentages of pupil teachers corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.30), it is found that the maximum percentage of pupil teachers opted the option agree (A) and strongly agree (SA) which results to the positive impact of the two statements of academic process dimension of Process factor of B.Ed. programme on pupil teachers.
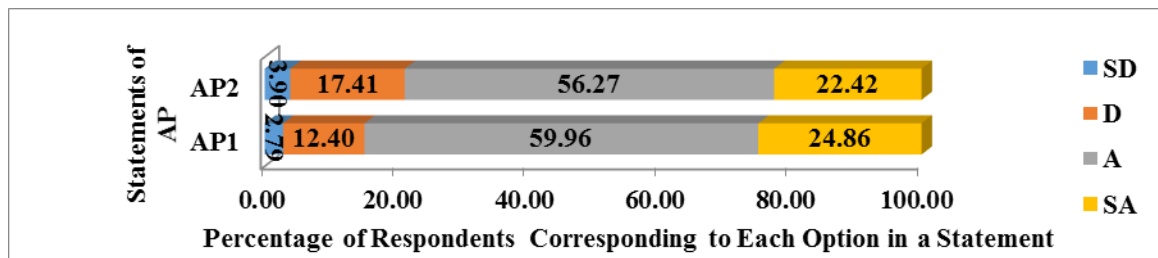
Figure 4.30: **Percentage of Responses of Pupil Teachers Corresponding to Each Option of Academic Process Statements**

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented below (table 4.33) and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of two statements of academic process dimension of Process factor of B.Ed. programme on pupil teachers.

Table 4.33

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Two Statements of Academic Process Dimension of Process Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements ⟶			AP_1	AP_2
↓	N_n ↓ $\%_n$ ↓	N_p ⟶ $\%_p$	1218 84.82	1130 78.69
AP_1	218 15.18		$t = 26.39^{**}$	-
AP_2	306 21.31		-	$t = 21.74^{**}$

N_p ($\%_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n ($\%_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01
AP_1 (Library resources are being consulted for content enrichment) and AP_2 (Subject-specific competencies are being developed the use of learning resource centers)

There are significant differences between the percentage of pupil teachers, who have a positive and negative impact, in both the statements (i.e. AP_1 and AP_2), as the values of t = 26.39 and 21.74 are significant at α = .01 (table 4.33). Therefore, both the statements have a significantly more positive impact on PTs as compared to their negative impact. Thus, H_o stands not accepted for the statements AP_1 and AP_2 of academic process (AP) dimension of Process factor of B.Ed. programme.

4.1.1.17   Statementwise Analysis of Data of Evaluation Process Dimension of Process Factor of Impact of B.Ed. Programme on Pupil Teachers

The synthetic indexes, for the three statements related to the Evaluation Process (EP) dimension of the impact of B.Ed. programme, are 3.09, 3.10, and 2.96 as mean values; and .70, .65 & .72 as standard deviation values (table 4.34); which indicates that there is a

positive impact of the three statements on pupil teachers. The arrangement of mean values in descending order of their impact on pupil teachers is as follows:

$$EP_2\ (3.10) > EP_1\ (3.09) > EP_3\ (2.96)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the two statements i.e. EP_2 (Various formative assessment strategies are being applied) and EP_1 (Evaluation criterion is being discussed at the beginning of the lesson) have more impact on pupil teachers as compared to the statement EP_3 (Assessment is being done based on pre-decided rubrics) as evaluation process (EP) dimension of Process factor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.34 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of three statements of evaluation process dimension of Process factor of B.Ed. programme on pupil teachers.

Table 4.34

Means Matrix Showing Significance of Difference in Means of Three Statements of Evaluation Process Dimension of Input Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements ⟶			EP_2	EP_1	EP_3
⬇	M ⟶		3.10	3.09	2.96
	SD ⬇		.65	.70	.72
EP_2	3.10	r	-	$.39^{**}$	$.33^{**}$
	.65	t		.46	6.99^{**}
EP_1	3.09	r		-	$.31^{**}$
	.70	t			6.28^{**}
EP_3	2.96	r			-
	.72	t			

$^{**}\alpha = .01$

EP_1 (Evaluation criterion is being discussed at the beginning of the lesson); EP_2 (Various formative assessment strategies are being applied) and EP_3 (Assessment is being done based on pre-decided rubrics)

There are significant differences in the impact of the two comparisons between means of responses for the statements EP_2 and EP_1 over the statement EP_3, as the values of t $_{(1435)}$ =

6.28 and 6.99 are significant at $\alpha = .01$; and there is a non-significant difference in the impact of comparison between means of responses for the statements EP_2 vs EP_1, as the value of $t_{(1435)} = .46$ is non-significant at $\alpha = .05$ (table 4.34). Therefore, the higher mean score of EP_2 ($M_{EP2} = 3.10$) and EP_1 ($M_{EP1} = 3.09$) both indicate that EP_2 and EP_1 have significantly more impact on pupil teachers as compared to EP_3 ($M_{EP3} = 2.96$). On the other hand, the statements EP_2 vs EP_1 have no significant difference in the impact on pupil teachers. Thus, H_o stands not accepted for the two comparisons between means of responses to the statements EP_2 vs EP_1 and EP_2 vs EP_3 whereas H_o stands accepted for a comparison between means of responses to the statements EP_2 vs EP_1 of the evaluation process (EP) dimension of Process factor of B.Ed. programme.

Based on the percentages of pupil teachers corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.31), it is found that the maximum percentage of pupil teachers opted the option agree (A) and strongly agree (SA) which results to the positive impact of the three statements of evaluation process dimension of Process factor of B.Ed. programme on pupil teachers.
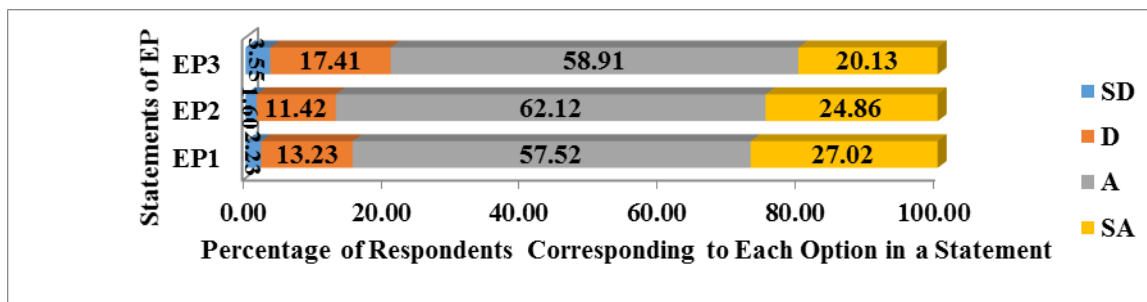
Figure 4.31: Percentage of Responses of Pupil Teachers Corresponding to Each Option of Evaluation Process Statements

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in the table 4.35 and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of three statements of EP dimension of Process factor of B.Ed. programme on pupil teachers.

Table 4.35

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Three Statements of Evaluation Process Dimension of Process Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements ⟶		N_p ⟶ $\%_p$	EP_1	EP_2	EP_3
↓	N_n ↓ $\%_n$ ↓		1214 84.54	1249 86.98	1135 79.04
EP_1	222 15.46		t =26.18**	-	-
EP_2	187 13.02		-	t =28.03**	-
EP_3	301 20.96		-	-	t =22.01**

*N_p ($\%_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n ($\%_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and** $\alpha = .01$*
EP_1 (Evaluation criterion is being discussed at the beginning of the lesson); EP_2 (Various formative assessment strategies are being applied) and EP_3 (Assessment is being done based on pre-decided rubrics)

There are significant differences between the percentage of pupil teachers, who have a positive and negative impact, in all the three statements (i.e. EP_1, EP_2, and EP_3), as the values of t = 26.18, 28.03, and 22.01 are significant at $\alpha = .01$ (table 4.35). Therefore, all three statements have a significantly more positive impact on the pupil teachers as compared to their negative impact. Thus, H_o stands not accepted for the statements EP_1, EP_2, and EP_3 of the evaluation process (EP) dimension of Process factor of B.Ed. programme.

4.1.1.18   Statementwise Analysis of Data of Professional Competencies Product Dimension of Product Factor of Impact of B.Ed. Programme on Pupil Teachers

The synthetic indexes, for the eight statements related to the Professional Competencies Product (PCPr) dimension of the impact of B.Ed. programme, are 3.26, 3.12, 3.29, 3.25, 3.14, 3.15, 3.20 and 3.31 as mean values; and .62, .73, .61, .63, .67, .67, .61 and .61 as standard deviation values (table 4.36); which indicates that there is positive impact of the eight statements on pupil teachers. The arrangement of mean values in descending order of their impact on pupil teachers is as follows:

$$PCPr_8\ (3.31) > PCPr_3\ (3.29) > PCPr_1\ (3.26) > PCPr_4\ (3.25) > PCPr_7\ (3.20) > PCPr_6$$
$$(3.15) > PCPr_5\ (3.14) > PCPr_2\ (3.12)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the two statements i.e. $PCPr_8$ (Developed cooperation and collaboration skills in me) and $PCPr_3$ (Developed my communication competencies) have more impact on pupil teachers as compared to other six statements i.e. $PCPr_1$ (Transformed me into a competent professional); $PCPr_4$ (Enabled me to conduct various academic activities); $PCPr_7$ (Developed social competencies to deal effectively with the community); $PCPr_6$ (Developed me holistically); $PCPr_5$ (Enabled me to conduct various non-academic activities); and $PCPr_2$ (Enabled me to qualify teacher eligibility test) as professional competencies product (PCPr) dimension of Product factor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.36 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of eight statements of professional competencies product dimension of Product factor of B.Ed. programme on pupil teachers.

There are significant differences in the impact of the twenty two comparisons between means of responses for the statement $PCPr_8$ over the statements $PCPr_1$, $PCPr_4$, $PCPr_7$, $PCPr_6$, $PCPr_5$ and $PCPr_2$, as the values of t $_{(1435)}$ = 2.64, 3.36, 6.05, 7.61, 8.51 and 9.04 are significant at α = .01; for the statement $PCPr_3$ over the statements $PCPr_4$, $PCPr_7$, $PCPr_6$, $PCPr_5$ and $PCPr_2$, as the values of t $_{(1435)}$ = 2.61, 5.09, 6.92, 7.64 and 8.31 are significant at α = .01; for the statement $PCPr_1$ over the statements $PCPr_7$, $PCPr_6$, $PCPr_5$ and $PCPr_2$, as the values of t $_{(1435)}$ = 2.94, 5.20, 5.57 and 6.61 are significant at α = .01; for the statement $PCPr_4$ over the statements $PCPr_7$, $PCPr_6$, $PCPr_5$ and $PCPr_2$, as the values of t $_{(1435)}$ = 2.46, 4.60, 5.76 and 6.45 are significant at α = .01 and.05; for the statement $PCPr_7$ over the statements $PCPr_6$, $PCPr_5$ and $PCPr_2$, as the values of t $_{(1435)}$ = 2.32, 2.72 and 3.83 are significant at α = .01 and .05; and there are non-significant differences in the impact of the six comparisons between means of responses for the statements

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Table 4.36

Means Matrix Showing Significance of Difference in Means of Eight Statements of the PCPr Dimension of Product

Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements⟶			PCPr$_8$	PCPr$_3$	PCPr$_1$	PCPr$_4$	PCPr$_7$	PCPr$_6$	PCPr$_5$	PCPr$_2$
	M		3.31	3.29	3.26	3.25	3.20	3.15	3.14	3.12
	SD		.61	.61	.62	.63	.61	.67	.67	.73
PCPr$_8$	3.31	**r**	-	**.41****	**.30****	**.37****	**.39****	**.30****	**.37****	**.31****
	.61	**t'/z'**		.91	**2.64****	**3.36****	**6.05****	**7.61****	**8.51****	**9.04****
PCPr$_3$	3.29	**r**		-	**.35****	**.42****	**.37****	**.32****	**.37****	**.32****
	.61	**t'/z'**			1.87	**2.61****	**5.09****	**6.92****	**7.64****	**8.31****
PCPr$_1$	3.26	**r**			-	**.35****	**.27****	**.34****	**.31****	**.32****
	.62	**t'/z'**				.60	**2.94****	**5.20****	**5.57****	**6.61****
PCPr$_4$	3.25	**r**				-	**.33****	**.34****	**.49****	**.40****
	.63	**t'/z'**					**2.46***	**4.60****	**5.76****	**6.45****
PCPr$_7$	3.20	**r**					-	**.39****	**.33****	**.31****
	.61	**t'/z'**						**2.32***	**2.72****	**3.83****
PCPr$_6$	3.15	**r**						-	**.35****	**.32****
	.67	**t'/z'**							.48	1.71
PCPr$_5$	3.14	**r**							-	**.29****
	.67	**t'/z'**								1.23
PCPr$_2$	3.12	**r**								-
	.73	**t'/z'**								

** $\alpha = .01$ and $^{*}\alpha = .05$

PCPr$_1$ (Transformed me into a competent professional); PCPr$_2$ (Enabled me to qualify teacher eligibility test); PCPr$_3$ (Developed my communication competencies); PCPr$_4$ (Enabled me to conduct various academic activities); PCPr$_5$ (Enabled me to conduct various non-academic activities); PCPr$_6$ (Developed me holistically); PCPr$_7$ (Developed social competencies to deal effectively with the community); and PCPr$_8$ (Developed cooperation and collaboration skills in me)

PCPr$_8$ vs PCPr$_3$; PCPr$_3$ vs PCPr$_1$; PCPr$_1$ vs PCPr$_4$; PCPr$_6$ vs PCPr$_5$; PCPr$_6$ vs PCPr$_2$; and PCPr$_5$ vs PCPr$_2$, as the values of t $_{(1435)}$ = .91, 1.87, .60, .48, 1.71 and 1.23 are non-significant at α = .05 (table 4.36). Therefore, the statement PCPr$_8$ (M$_{PCPr8}$ = 3.31) has significantly more impact on pupil teachers as compared to the statementsPCPr$_1$ (M$_{PCPr1}$ = 3.26), PCPr$_4$ (M$_{PCPr4}$ = 3.25), PCPr$_7$ (M$_{PCPr7}$ = 3.20), PCPr$_6$ (M$_{PCPr6}$ = 3.15), PCPr$_5$ (M$_{PCPr5}$ = 3.14) and PCPr$_2$ (M$_{PCPr2}$ = 3.12); the statement PCPr$_3$ (M$_{PCPr3}$ = 3.29) has significantly more impact on pupil teachers as compared to the statements PCPr$_4$ (M$_{PCPr4}$ = 3.25), PCPr$_7$ (M$_{PCPr7}$ = 3.20), PCPr$_6$ (M$_{PCPr6}$ = 3.15), PCPr$_5$ (M$_{PCPr5}$ = 3.14) and PCPr$_2$ (M$_{PCPr2}$ = 3.12); PCPr$_3$ (M$_{PCPr3}$ = 3.29); the statements PCPr$_1$ (M$_{PCPr1}$ = 3.26) and PCPr$_4$ (M$_{PCPr4}$ = 3.25) have significantly more impact on pupil teachers as compared to the statements PCPr$_7$ (M$_{PCPr7}$ = 3.20), PCPr$_6$ (M$_{PCPr6}$ = 3.15), PCPr$_5$ (M$_{PCPr5}$ = 3.14) and PCPr$_2$ (M$_{PCPr2}$ = 3.12); the statement PCPr$_7$ (M$_{PCPr7}$ = 3.20) has significantly more impact on pupil teachers as compared to the statements PCPr$_6$ (M$_{PCPr6}$ = 3.15), PCPr$_5$ (M$_{PCPr5}$ = 3.14) and PCPr$_2$ (M$_{PCPr2}$ = 3.12). On the other hand, the statements PCPr$_8$ vs PCPr$_3$; PCPr$_3$ vs PCPr$_1$; PCPr$_1$ vs PCPr$_4$; PCPr$_6$ vs PCPr$_5$; PCPr$_6$ vs PCPr$_2$and PCPr$_5$ vs PCPr$_2$ have no significant difference in the impact on pupil teachers. Thus, H$_o$ stands not accepted for the twenty two comparisons between means of responses to the statements PCPr$_8$ vs PCPr$_1$; PCPr$_8$ vs PCPr$_4$; PCPr$_8$ vs PCPr$_7$; PCPr$_8$ vs PCPr$_6$; PCPr$_8$ vs PCPr$_5$; PCPr$_8$ vs PCPr$_2$; PCPr$_3$ vs PCPr$_4$; PCPr$_3$ vs PCPr$_7$; PCPr$_3$ vs PCPr$_6$; PCPr$_3$ vs PCPr$_5$; PCPr$_3$ vs PCPr$_2$; PCPr$_1$ vs PCPr$_7$; PCPr$_1$ vs PCPr$_6$; PCPr$_1$ vs PCPr$_5$; PCPr$_1$ vs PCPr$_2$; PCPr$_4$ vs PCPr$_7$; PCPr$_4$ vs PCPr$_6$; PCPr$_4$ vs PCPr$_5$; PCPr$_4$ vs PCPr$_2$; PCPr$_7$ vs PCPr$_6$; PCPr$_7$ vs PCPr$_5$; and PCPr$_7$ vs PCPr$_2$ whereas H$_o$ stands accepted for the six comparisons between means of responses to the statements PCPr$_8$ vs PCPr$_3$; PCPr$_3$ vs PCPr$_1$; PCPr$_1$ vs PCPr$_4$; PCPr$_6$ vs PCPr$_5$; PCPr$_6$ vs PCPr$_2$; and PCPr$_5$ vs PCPr$_2$ of professional competencies product (PCPr) dimension of Product factor of B.Ed. programme.

Based on the percentages of pupil teachers corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.32), it is found that the maximum percentage of pupil teachers opted the option agree (A) and strongly agree (SA) which results to the positive impact of the eight statements

of professional competencies product dimension of Process factor of B.Ed. programme on pupil teachers.
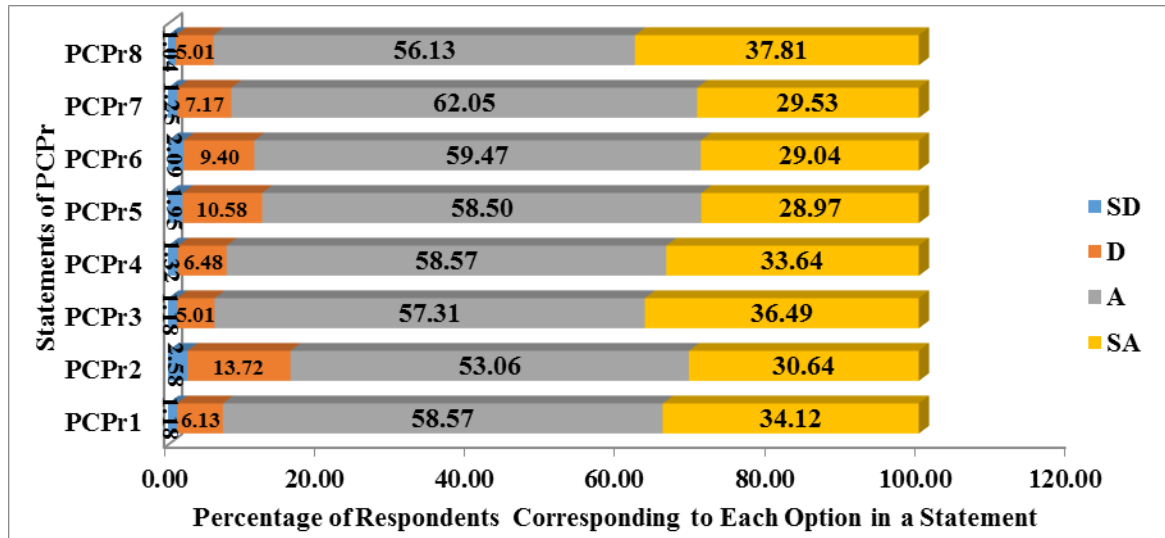
Figure 4.32: **Percentage of Responses of Pupil Teachers Corresponding to Each Option of Professional CompetenciesProduct Statements**

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in table 4.37 and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of eight statements of professional competencies product dimension of Product factor of B.Ed. programme on pupil teachers.

There are significant differences between the percentage of pupil teachers, who have a positive and negative impact, in all the eight statements (i.e. $PCPr_1$, $PCPr_2$ $PCPr_3$, $PCPr_4$, $PCPr_5$, $PCPr_6$, $PCPr_7$, and $PCPr_8$), as the values of t = 32.35, 25.54, 33.20, 31.98, 28.39, 29.19, 31.51 and 33.30 are significant at α = .01 (table 4.37). Therefore, all eight statements have a significantly more positive impact on pupil teachers as compared to their negative impact. Thus, H_o stands not accepted for statements $PCPr_1$, $PCPr_2$ $PCPr_3$, $PCPr_4$, $PCPr_5$, $PCPr_6$, $PCPr_7$, and $PCPr_8$ of professional competencies product (PCPr) dimension of Product factor of B.Ed. programme.

Table 4.37

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Eight Statements of Professional Competencies Product Dimension of Product Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements ⟶			$PCPr_1$	$PCPr_2$	$PCPr_3$	$PCPr_4$	$PCPr_5$	$PCPr_6$	$PCPr_7$	$PCPr_8$
↓	N_n ↓ $\%_n$ ↓	N_p ⟶ $\%_p$ ⟶	1331 92.69	1202 83.70	1347 93.80	1324 92.20	1256 87.47	1271 88.51	1315 91.57	1349 93.94
$PCPr_1$	105 7.31		$t = 32.35^{**}$	-	-	-	-	-	-	-
$PCPr_2$	234 16.30		-	$t = 25.54^{**}$	-	-	-	-	-	-
$PCPr_3$	89 6.20		-	-	$t = 33.20^{**}$	-	-	-	-	-
$PCPr_4$	112 7.80		-	-	-	$t = 31.98^{**}$	-	-	-	-
$PCPr_5$	180 12.53		-	-	-	-	$t = 28.39^{**}$	-	-	-
$PCPr_6$	165 11.49		-	-	-	-	-	$t = 29.19^{**}$	-	-
$PCPr_7$	121 8.43		-	-	-	-	-	-	$t = 31.51^{**}$	-
$PCPr_8$	87 6.06		-	-	-	-	-	-	-	$t = 33.30^{**}$

N_p (%$_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n (%$_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01

$PCPr_1$ (Transformed me into a competent professional); $PCPr_2$ (Enabled me to qualify teacher eligibility test); $PCPr_3$ (Developed my communication competencies); $PCPr_4$ (Enabled me to conduct various academic activities); $PCPr_5$ (Enabled me to conduct various non-academic activities); $PCPr_6$ (Developed me holistically); $PCPr_7$ (Developed social competencies to deal effectively with the community); and $PCPr_8$ (Developed cooperation and collaboration skills in me)

4.1.1.19 Statementwise Analysis of Data of Inclusive Competencies Product Dimension of Product Factor of Impact of B.Ed. Programme on Pupil Teachers

The synthetic indexes for the two statements related to the Inclusive Competencies Product (ICPr) dimension of the impact of B.Ed. programme are 3.29 and 3.17 as mean values; and .60 & .65 as standard deviation values (table 4.38); which indicates that there is a positive impact of the two statements on pupil teachers. The mean value of the ratings for statement $ICPr_1$ (3.29) is higher than the statement $ICPr_2$ (3.17).

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement $ICPr_1$ (Developed skills to deal with diverse problems of the classroom) has more impact on pupil teachers as compared to the statement $ICPr_2$ (Developed inclusive competencies to deal with diverse students) as inclusive competencies product (ICPr) dimension of Product factor of B.Ed. programme.

Table 4.38

Means Matrix Showing Significance of Difference in Means of Two Statements of Inclusive Competencies Product Dimension of Product Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements ———————————→			$ICPr_1$	$ICPr_2$
↓	M ————————→ SD ↓		3.29 .60	3.17 .65
$ICPr_1$	3.29 .60	r t	-	.45** 6.92**
$ICPr_2$	3.17 .65	r t		-

** $\alpha = .01$
$ICPr_1$ (Developed skills to deal with diverse problems of the classroom) and $ICPr_2$ (Developed inclusive competencies to deal with diverse students)

The significance of the difference between these means have been compared and shown in the means matrix presented above (table 4.38) and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of two statements of inclusive competencies product dimension of Product factor of B.Ed. programme on pupil teachers.

There is a significant difference in the impact of comparison between means of responses for the statement $ICPr_1$ over the statement $ICPr_2$, as the value of t $_{(1435)}$ = 6.92 is significant at α = .01 (table 4.38). Therefore, the higher mean score of $ICPr_1$ (M_{ICPr1} = 3.29) indicates that $ICPr_1$ has significantly more impact on pupil teachers as compared to $ICPr_2$ (M_{ICPr2} = 3.17). Thus, H_o stands not accepted for a comparison between means of responses to the statements $ICPr_1$ vs $ICPr_2$ of inclusive competencies product (ICPr) dimension of Product factor of B.Ed. programme.

Based on the percentages of pupil teachers corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.33), it is found that the maximum percentage of pupil teachers opted the option agree (A) and strongly agree (SA) which results to the positive impact of the two statements of inclusive competencies product dimension of Product factor of B.Ed. programme on pupil teachers.
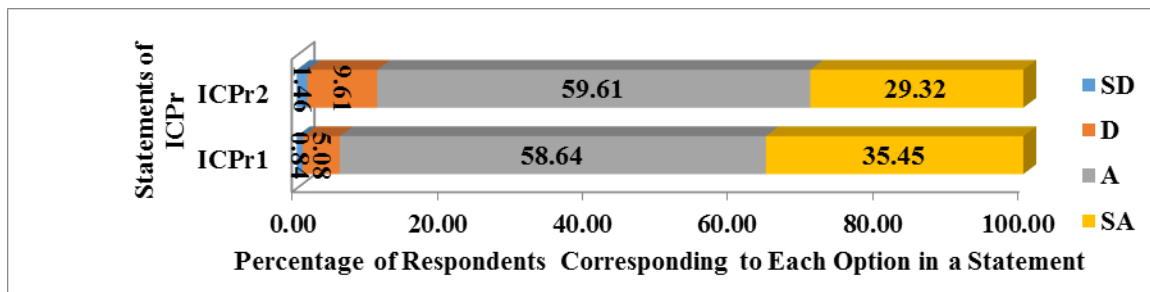
Figure 4.33: **Percentage of Responses of Pupil Teachers Corresponding to Each Option of Inclusive Competencies Product Statements**

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in table 4.39 and tested against the following null hypothesis:

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H_o: There is no significant difference in the positive and negative impact of two statements of inclusive competencies product dimension of Product factor of B.Ed. programme on pupil teachers.

Table 4.39

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Two Statements of Inclusive Competencies Product Dimension of Product Factor regarding Impact of B.Ed. Progrmme on Pupil Teachers

Statements $\longrightarrow$			$ICPr_1$	$ICPr_2$
$\downarrow$	N_n $\downarrow$ $\%_n$ $\downarrow$	N_p $\longrightarrow$ $\%_p$ $\longrightarrow$	1351 94.08	1277 88.93
$ICPr_1$	85 5.92		t =33.41**	-
$ICPr_2$	159 11.07		-	t =29.50**

*N_p ($\%_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n ($\%_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01*
$ICPr_1$ (Developed skills to deal with diverse problems of the classroom) and $ICPr_2$ (Developed inclusive competencies to deal with diverse students)

There is a significant difference between the percentage of pupil teachers, who have a positive and negative impact, in both the statements (i.e. $ICPr_1$ and $ICPr_2$), as the values of t = 33.41 and 29.50 are significant at α = .01 (table 4.39). Therefore, both the statements have a significantly more positive impact on pupil teachers as compared to their negative impact. Thus, H_o stands not accepted for statements $ICPr_1$ and $ICPr_2$ of inclusive competencies product (ICPr) dimension of Product factor of B.Ed. programme.

4.1.1.20 Statementwise Analysis of Data of Teaching & Evaluation Competencies Product Dimension of Product Factor of Impact of B.Ed. Programme on Pupil Teachers

The synthetic indexes for the six statements related to the Teaching & Evaluation Competencies Product (TECPr) dimension of the impact of B.Ed. programme are 3.27, 3.11, 3.18, 3.15, 3.23 and 3.27 as mean values; and .64, .75, .63, .66, .65 and .60 as standard deviation values (table 4.40); which indicates that there is positive impact of the

six statements on pupil teachers. The arrangement of mean values in descending order of their impact on pupil teachers is as follows:

$$TECPr_1 (3.27) = TECPr_6 (3.27) > TECPr_5 (3.23) > TECPr_3 (3.18) > TECPr_4 (3.15) >$$
$$TECPr_2 (3.11)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the two statements i.e. $TECPr_1$ (Developed my instructional planning skills) and $TECPr_6$ (Developed skills to use various evaluation strategies) have more impact on pupil teachers as compared to other four statements i.e. $TECPr_5$ (Developed skills to use latest teaching strategies); $TECPr_3$ (Developed skills to design various assessment strategies); $TECPr_4$ (Developed skills to integrate online resources in the teaching-learning process); and $TECPr_2$ (Developed competencies to use e-learning resources in the teaching-learning process) as teaching & evaluation competencies product (TECPr) dimension of Product factor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.40 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of six statements of teaching & evaluation competencies product dimension of Product factor of B.Ed. programme on pupil teachers.

There are significant differences in the impact of the eleven comparisons between means of responses for the statement $TECPr_1$ over the statements $TECPr_3$, $TECPr_4$, and $TECPr_2$, as the values of t $_{(1435)}$ = 4.77, 5.89, and 7.43 are significant at α = .01; for the statement $TECPr_6$ over the statements $TECPr_5$, $TECPr_3$, $TECPr_4$, and $TECPr_2$, as the values of t $_{(1435)}$ = 2.30, 5.13, 6.65 and 7.67 are significant at α = .01 and .05; for the statement $TECPr_5$ over the statements $TECPr_3$, $TECPr_4$, and $TECPr_2$, as the values of t $_{(1435)}$ = 2.72, 4.52 and 5.89 are significant at α = .01; for the statement $TECPr_3$ over the statement $TECPr_2$, as the value of t $_{(1435)}$ = 3.19 is significant at α = .01; and there is a non-significant difference in the impact of the four comparisons between means of responses for the statements $TECPr_1$ vs $TECPr_6$; $TECPr_1$ vs $TECPr_5$; $TECPr_3$ vs $TECPr_4$; and

TECPr$_4$ vs TECPr$_2$, as the values of t $_{(1435)}$ = .19, 1.82, 1.61 and 1.93 are non-significant at α = .05 (table 4.40).

Table 4.40

Means Matrix Showing Significance of Difference in Means of Six Statements of Teaching & Evaluation Competencies Product Dimension of Product Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements——➔			TECPr$_1$	TECPr$_6$	TECPr$_5$	TECPr$_3$	TECPr$_4$	TECPr$_2$
	M ➔		3.27	3.27	3.23	3.18	3.15	3.11
	SD ↓		.64	.60	.65	.63	.66	.75
TECPr$_1$	3.27	r	-	.34**	.31**	.39**	.31**	.35**
	.64	t		.19	1.82	4.77**	5.89**	7.43**
TECPr$_6$	3.27	r		-	.45**	.40**	.39**	.34**
	.60	t			2.30*	5.13**	6.65**	7.67**
TECPr$_5$	3.23	r			-	.37**	.44**	.40**
	.65	t				2.72**	4.52**	5.89**
TECPr$_3$	3.18	r				-	.35**	.31**
	.63	t					1.61	3.19**
TECPr$_4$	3.15	r					-	.46**
	.66	t						1.93
TECPr$_2$	3.11	r						-
	.75	t						

** α = .01 and* α = .05

TECPr$_1$ (Developed my instructional planning skills); TECPr$_2$ (Developed competencies to use e-learning resources in the teaching-learning process); TECPr$_3$ (Developed skills to design various assessment strategies); TECPr$_4$ (Developed skills to integrate online resources in the teaching-learning process); TECPr$_5$ (Developed skills to use latest teaching strategies); and TECPr$_6$ (Developed skills to use various evaluation strategies)

Therefore, the statements TECPr$_1$ (M$_{TECPr1}$ = 3.27) and TECPr$_5$ (M$_{TECPr5}$ = 3.23) have significantly more impact on pupil teachers as compared to the statements TECPr$_3$ (M$_{TECPr3}$ = 3.18), TECPr$_4$ (M$_{TECPr4}$ = 3.15) and TECPr$_2$ (M$_{TECPr2}$ = 3.11); the statement TECPr$_6$ (M$_{TECPr6}$ = 3.27) has significantly more impact on pupil teachers as compared to the statements TECPr$_5$ (M$_{TECPr5}$ = 3.23), TECPr$_3$ (M$_{TECPr3}$ = 3.18), TECPr$_4$ (M$_{TECPr4}$ = 3.15) and TECPr$_2$ (M$_{TECPr2}$ = 3.11); and TECPr$_3$ (M$_{TECPr3}$ = 3.18) has significantly more impact on pupil teachers as compared to the statement TECPr$_2$ (M$_{TECPr2}$ = 3.11). On the

other hand, the statements $TECPr_1$ vs $TECPr_6$; $TECPr_1$ vs $TECPr_5$; $TECPr_3$ vs $TECPr_4$; and $TECPr_4$ vs $TECPr_2$ have no significant difference in the impact on pupil teachers. Thus, H_o stands not accepted for the eleven comparisons between means of responses to the statements $TECPr_1$ vs $TECPr_3$; $TECPr_1$ vs $TECPr_4$; $TECPr_1$ vs $TECPr_2$; $TECPr_6$ vs $TECPr_5$; $TECPr_6$ vs $TECPr_3$; $TECPr_6$ vs $TECPr_4$; $TECPr_6$ vs $TECPr_2$; $TECPr_5$ vs $TECPr_3$; $TECPr_5$ vs $TECPr_4$; $TECPr_5$ vs $TECPr_2$; and $TECPr_3$ vs $TECPr_2$ whereas H_o stands accepted for the four comparisons between means of responses to the statements $TECPr_1$ vs $TECPr_6$; $TECPr_1$ vs $TECPr_5$; $TECPr_3$ vs $TECPr_4$; and $TECPr_4$ vs $TECPr_2$ of teaching & evaluation competencies product (TECPr) dimension of Product factor of B.Ed. programme.
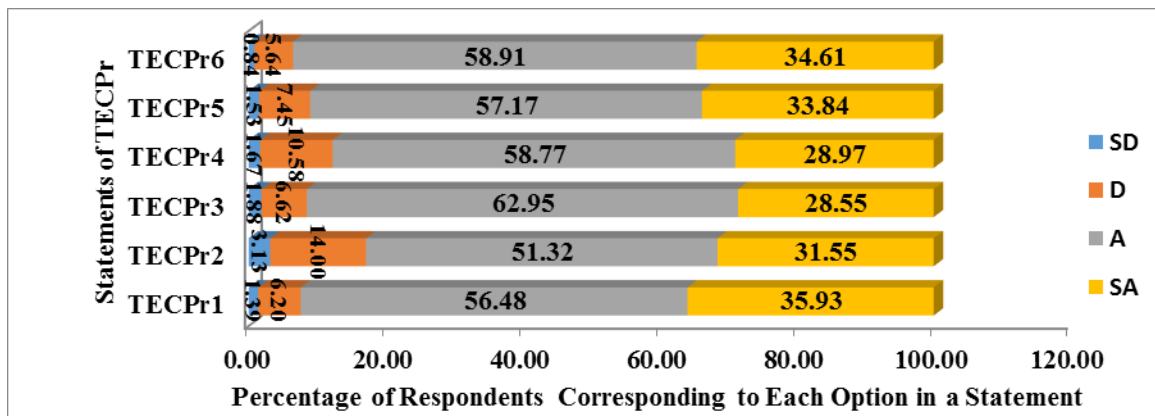
Figure 4.34: Percentage of Responses of Pupil Teachers Corresponding to Each Option of Teaching & Evaluation Competencies Product Statements

Based on the percentages of pupil teachers corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.34), it is found that the maximum percentage of pupil teachers opted the option agree (A) and strongly agree (SA) which results to the positive impact of the two statements of teaching & evaluation competencies product dimension of Product factor of B.Ed. programme on pupil teachers.

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in the table 4.41 and tested against the following null hypothesis:

Table 4.41

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Six Statements of Teaching & Evaluation Competencies Product Dimension of Product Factor regarding Impact of B.Ed. Programme on Pupil Teachers

Statements ⟶			TECPr$_1$	TECPr$_2$	TECPr$_3$	TECPr$_4$	TECPr$_5$	TECPr$_6$
⬇	N$_n$ ⬇ %$_p$ ⬇	N$_p$ ⟶ %$_n$ ⟶	1327 92.41	1190 82.87	1314 91.50	1260 87.74	1307 91.02	1343 93.52
TECPr$_1$	109 7.59		t =32.14**	-	-	-	-	-
TECPr$_2$	246 17.13		-	t =24.91**	-	-	-	-
TECPr$_3$	122 8.50		-	-	t =31.46**	-	-	-
TECPr$_4$	176 12.26		-	-	-	t =28.61**	-	-
TECPr$_5$	129 8.98		-	-	-	-	t =31.09**	-
TECPr$_6$	93 6.48		-	-	-	-	-	t =32.99**

*N$_p$ (%$_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N$_n$ (%$_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01*

TECPr$_1$ (Developed my instructional planning skills); TECPr$_2$ (Developed competencies to use e-learning resources in the teaching-learning process); TECPr$_3$ (Developed skills to design various assessment strategies); TECPr$_4$ (Developed skills to integrate online resources in the teaching-learning process); TECPr$_5$ (Developed skills to use latest teaching strategies); and TECPr$_6$ (Developed skills to use various evaluation strategies)

H_o: There is no significant difference in the positive and negative impact of six statements of teaching & evaluation competencies product dimension of Product factor of B.Ed. programme on pupil teachers.

There are significant differences between the percentage of pupil teachers, who have a positive and negative impact, in all the six statements (i.e. $TECPr_1$, $TECPr_2$, $TECPr_3$, $TECPr_4$, $TECPr_5$, and $TECPr_6$), as the values of t = 32.14, 24.91, 31.46, 28.61, 31.09 and 32.99 are significant at α = .01 (table 4.41). Therefore, all the six statements have a significantly more positive impact on the pupil teachers as compared to their negative impact. Thus, H_o stands not accepted for the statements $TECPr_1$, $TECPr_2$, $TECPr_3$, $TECPr_4$, $TECPr_5$, and $TECPr_6$ of teaching & evaluation competencies product (TECPr) dimension of Product factor of B.Ed. programme.

4.1.1.21 Contribution of Context, Input, Process, and Product Factors (CIPP) of B.Ed. Programme in Impact of B.Ed. Programme on Pupil Teachers

The multiple linear regression analysis was applied to the collected data to see the relative contributions of context, input, process, and product in the impact of B.Ed. programme on pupil teachers. The details are presented below in table 4.42 and 4.43.

Table 4.42

Model and ANOVA Summary for Context, Input, Process, and Product (CIPP) Factors of B.Ed. Programme as Contributor of Impact of B.Ed. Programme on Pupil Teachers

Model	R	R square	Adjusted R square	Std. Error of Estimate	F-value	Sign.
CIPP & IBP on PTs	1.00[a]	1.00	1.00	.0032	4728211.90	.000[b]
a. Predictors: (Constant), Context, Input, Process, and Product; b. Dependent Variable: IBP						

CIPP-Context, Input, Process, and Product; IBP- Impact of B.Ed. program; and PTs-Pupil Teachers

From table 4.42, it is clear that the independent variables i.e., context, input, process, and product factors of B.Ed. programme are significant contributors to the total impact of B.Ed. programme (the dependent variable) on pupil teachers.

Table 4.43

Coefficients [a] and t-values for CIPP & Impact of B.Ed. Programme on Pupil Teachers

Model		Unstandardized Coefficients		Standardized Coefficients	t-value	Sign.
		B	Std. Error	Beta		
CIPP & IBP on PTs	Constant	.00	.001	-	.56	.58
	Context	.14	.000	.15	468.04	.000
	Input	.25	.000	.29	753.47	.000
	Process	.33	.000	.39	959.10	.000
	Product	.28	.000	.31	838.51	.000

CIPP-Context, Input, Process, and Product; IBP- Impact of B.Ed. program; and PTs-Pupil Teachers

The standardized coefficient 'β' (determination coefficient) values (table 4.43) concluded that the Process factor (.39) and Context factor (.15) of B.Ed. programme has made maximum and minimum contribution respectively in the impact of B.Ed. programme on pupil teachers. The order of relative contribution of context, input, process, and product factors in the impact of B.Ed. programme on pupil teachers is given below:

Process (.39) > Product (.31) > Input (.29) > Context (.15)

Now, the summary of the results, related to the IBP on pupil teachers, are pointwise mentioned below:

1. Based on the descriptive and inferential analysis, it has been found that there is whole (net), factorwises, dimensionwise, and indicatorwise/statementwise positive impact of B.Ed. programme on pupil teachers.

2. Context factor has maximum and Process factor has a minimal positive impact on pupil teachers.

3. Based on the descriptive and inferential analysis, it has been found that Mission & Vision (MV); Training Input (TI); Curriculum Transaction Process (CTP); and

Inclusive Competencies Product (ICPr) dimensions of Context; Input; Process and Product factors respectively of B.Ed. programme has a maximum positive impact on PTs and the dimension Programme Objectives (PO); Resource Input (RI); Training Process (TP); and Teaching & Evaluation Competencies Product (TECPr) dimensions of Context; Input; Process and Product factors respectively of B.Ed. programme have a minimum positive impact on pupil teachers

4. On the basis of descriptive and inferential analysis, it has been found that MV_1 (Develops prospective teachers into a competent professional), PO_3 (Link school knowledge with community life), AI_1 (All activities of B.Ed. programme are included in academic calendar), RI_1 (Library resources are easily accessibility in B.Ed. programme), TI_5 (Rigorous teaching internship for 14 weeks is organized in schools), PI_1 (Different professional activities are organized for enhancing professional capacities), CTP_1 (Real life experiences are being shared in the class room), PP_2 (Field visits to school are being organized to develop understanding about school systems), TP_1 (Constructive feedback is being given in simulated teaching practice), AP_1 (Library resources are being consulted for content enrichment), EP_2 (Various formative assessment strategies are being applied), $PCPr_8$ (Developed cooperation and collaboration skills in me), $ICPr_1$ (Developed skills to deal with diverse problems of classroom), $TECPr_1$ (Developed my instructional planning skills) and $TECPr_6$ (Developed skills to use various evaluation strategies) indicators/statements of B.Ed. programme have maximum positive impact on PTs whereas MV_4 (Develops inclusive competencies to deal with diverse students), PO_4 (Increases employment opportunities for prospective teachers), AI_3 (Diverse projects are assigned in B.Ed. programme), RI_2 (Modern learning facilities for teaching are available in B.Ed. programme), TI_6 (Extra inputs for state/center level teacher eligibility test are given), PI_2 (Collaborative partnership with community is set up in B.Ed. programme), CTP_3 (E-resources are being used in classroom teaching), PP_4 (Inputs are being given for the preparation of Teacher Eligibility Test), TP_3 (Community projects are being conducted in

collaboration with NGOs), AP$_2$ (Subject-specific competencies are being developed the use of learning resource centers), EP$_3$ (Assessment is being done on the basis of pre-decided rubrics), PCPr$_2$ (Enabled me to qualify teacher eligibility test), ICPr$_2$ (Developed inclusive competencies to deal with diverse students) and TECPr$_2$ (Developed competencies to use e-learning resources in teaching-learning process) indicators/statements of B.Ed. programme have a minimum positive impact on pupil teachers.

5. Based on the multiple linear regression analysis, it has been found that Context, Input, Process, and Product factors of B.Ed. programme are significant contributors to the impact of B.Ed. programme on pupil teachers. The arrangement in the descending order of their relative contribution in the impact of B.Ed. programme on pupil teachers is as follows:

Process > Product > Input > Context

6. Therefore, multiple linear regression analysis showed that, out of the four factors of B.Ed. programme, Process factor is the strongest contributor, and Context factor is the weakest contributor of the impact of B.Ed. programme on pupil teachers.

Next, the responses of the teacher educators on ESIBP-TEs have been analyzed to study the impact of B.Ed. programme on teacher educators with respect to total scores, factorwise scores, dimensionwise scores, statementwise scores, and role of four factors of B.Ed. programme on the impact of B.Ed. programme on teacher educators.

4.1.2   IMPACT OF B.ED. PROGRAMME ON TEACHER EDUCATORS

The evaluation scale for the impact of B.Ed. programme (ESIBP-TEs) was filled by teacher educators (N=120) of Punjab (N=55), Himachal Pradesh (N=15), and Haryana (N=50).

4.1.2.1 Analysis of Overall Impact of B.Ed. Programme on Teacher Educators

In figure 4.35, the distribution of the mean ratings of teacher educators on the impact of B.Ed. programme follows the pattern of the normal probability curve. It indicates that the data of mean of ratings of teacher educators on the impact of B.Ed. programme is normally distributed.
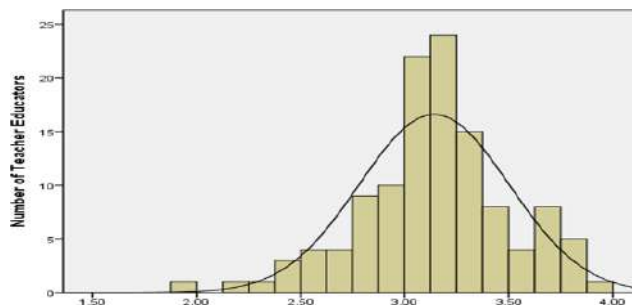
Mean of Ratings of TEs on the IBP

Figure 4.35 TEs Rating depicting the IBP

The frequency distribution and synthetic indexes i.e. mean and standard deviations are shown in tables 4.43 and 4.44 for the impact of B.Ed. programme on teacher educators. The strongly disagree and disagree responses show the negative whereas the strongly agree and agree responses show the positive impact of B.Ed. programme on the respondents. Based on the mean of ratings of teacher educators for all the statements in evaluation scale for the impact of B.Ed. programme for teacher educators (ESIBP-TEs), it is found that the maximum number of teacher educators (N = 114, 95%) have a positive impact of B.Ed. programme and their mean ratings varied from 2.51 to 4.00 (table 4.44).

Table 4.44

Frequency Distribution of Mean of Ratings of Teacher Educators on ESIBP-TEs

S. No.	IBP	Mean of Ratings	Number of Teacher Educators
1	Negative	1.00 – 2.50	06
2	Positive	2.51 – 4.00	114
Total			120

Synthetic indexes are constructed to summarize the average of the rating scores on each item scores constituting the impact of B.Ed. programme on teacher educators (table 4.45).

Table 4.45

Values of Mean and Standard Deviation as Synthetic Index of the Impact of B.Ed. Programme on Teacher Educators

Impact of B.Ed. Programme on Teacher Educators	N	M	SD
	120	3.14	.36

The synthetic indexes i. e., mean and standard deviation, of responses to statements associated with the impact of B.Ed. programme are 3.14 and .36 (table 4.45). It is found that the maximum number of teacher educators responded to option '*agree*'/ '*strongly agree*', so the impact of B.Ed. programme is positive for teacher educators.

The collected data was processed by comparing the synthetic indexes of frequencies falling below (category I) and above (category II) synthetic mean of total scores by applying a t-test.

Table 4.46

Means Matrix Showing Significance of Difference in the Means regarding Impact of B.Ed. Programme on Teacher Educators of Category I and II

Category			Category I	Category II
	M		2.28	3.19
	SD		.22	.31
Category I	2.28 .22	t	-	**7.23****
Category II	3.19 .31	t		-

** *α = .01*

The significance of the difference between the means of teacher educators with mean of ratings corresponding to 1.00 to 2.50 (Category I) and 2.51 to 4.00 (Category II) have been compared and shown in the means matrix presented above (table 4.46) and tested against the following null hypothesis:

H$_o$: There is no significant difference in the impact of B.Ed. programme on teacher educators of Category I and II.

There is a significant difference in the impact of B.Ed. programme, as the value of t $_{(118)}$ = 7.23 is significant at α = .01; (table 4.46). Therefore, teacher educators of Category I (M$_{C-I}$ = 2.28) have significantly more impact of B.Ed. programme as compared to teacher educators of Category II (M$_{C-II}$ = 3.19). Thus, H$_o$ stands not accepted for the comparison between the mean of ratings on the impact of B.Ed. programme to the teacher educators of Category I and II.

4.1.2.2 Factorwise Analysis of Data of Impact of B.Ed. Programme Scores on Teacher Educators

In figures 4.36 to 4.39, the distribution of the mean ratings of teacher educators on the four factors i.e. Context, Input, Process, and Product factors/concerns of the impact of B.Ed. programme (IBP) follows the pattern of the normal probability curve. It indicates that the data of mean ratings of teacher educators (TEs) on the four factors are normally distributed.
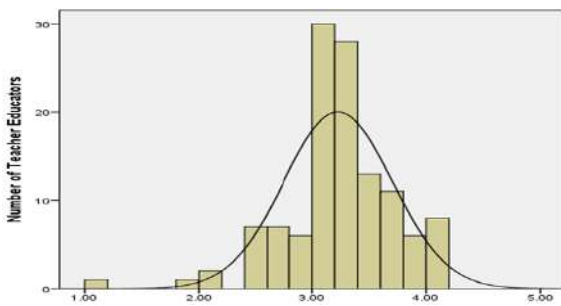
Mean of Ratings of TEs on Context Factor

Figure 4.36 TEs Rating depicting the contribution of Context Factor towards IBP
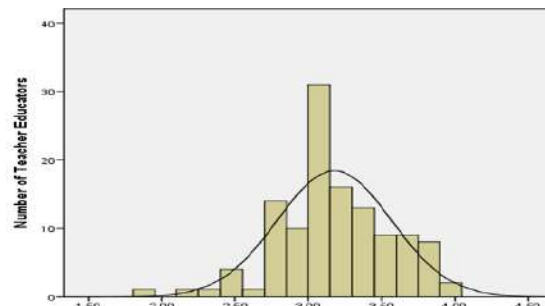
Mean of Ratings of TEs on Input Factor

Figure 4.37 TEs Rating depicting the contribution of Input Factor towards IBP
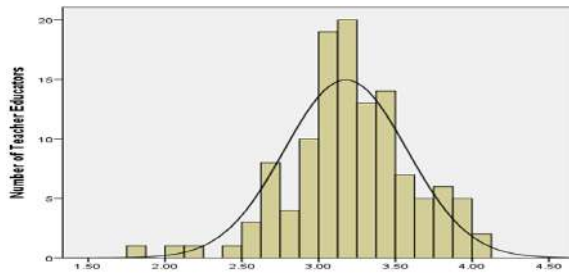
Mean of Ratings of TEs on Process Factor

Figure 4.38: TEs Rating depicting the contribution of Process Factor towards IBP
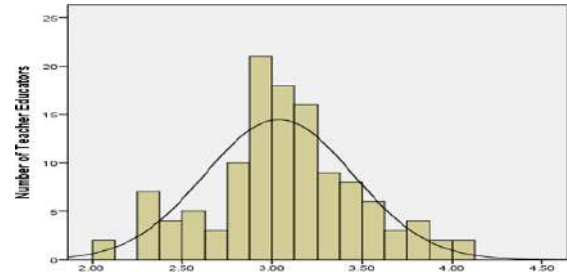
Mean of Ratings of TEs on Product Factor

Figure 4.39: TEs Rating depicting the contribution of Product Factor towards IBP

The frequency distribution and synthetic indexes i.e. mean and standard deviations are shown in tables 4.47 and 4.48 for the factorwise impact of B.Ed. programme (IBP) on teacher educators (TEs). The strongly disagree and disagree responses show the negative whereas the strongly agree and agree responses show the positive impact of B.Ed. programme on the respondents. Based on the mean ratings of teacher educators for the four factors in ESIBP-TEs, it is found that the maximum number of teacher educators ($N_{Context}$ = 109, 98.33%; N_{Input} = 113, 94.17%; $N_{Process}$ =114, 95%; and $N_{Product}$ =105, 87.5%) have a positive impact of B.Ed. programme and their mean ratings varied from 2.51 to 4.00 (table 4.47).

Table 4.47

Frequency Distribution of Mean Ratings of Teacher Educators on Four Factors of ESIBP-TEs

S. No.	IBP	Mean of Ratings	Number of Teacher Educators in Four Factors of ESIBP-TEs			
			Context	Input	Process	Product
1	Negative	1.00 – 2.50	11	07	06	15
2	Positive	2.51 – 4.00	109	113	114	105
Total			120	120	120	120

The synthetic indexes for the four factors of impact of B.Ed. programme are 3.22, 3.18, 3.18 & 3.04 as mean values; and .48, .39, .40 & .41 as standard deviation values, respectively (table 4.48). The self-reporting of teacher educators for the impact of the four factors of B.Ed. programme indicates the positive impact of all these four factors of

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B.Ed. programme on them. The range of the mean of the ratings on the four factors of B.Ed. programme is from 3.04 to 3.22, and the arrangement in descending order of their impact on teacher educators is as follows:

Context (3.22) > Input (3.18) = Process (3.18) > Product (3.04)

Table 4.48

Means Matrix Showing Significance of Difference in Means of Four Factors regarding Impact of B.Ed. Programme on Teacher Educators

Factor ⟶			Context	Input	Process	Product
	M ⟶		3.22	3.18	3.18	3.04
	SD ↓		.48	.39	.40	.41
Context	3.22	r	-	.76**	.69**	.52**
	.48	t		1.72	1.47	4.71**
Input	3.18	r		-	.79**	.56**
	.39	t			.01	4.10**
Process	3.18	r			-	.73**
	.40	t				5.14**
Product	3.04	r				-
	.41	t				

** *α = .01*

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.48 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of four factors of B.Ed. programme on teacher educators.

There are significant differences in the impact of the three comparisons between means of responses for Context, Input, and Process factors over Product factor, as the values of t $_{(119)}$ = 4.71, 4.10, and 5.14 are significant at α = .01; and there are non-significant differences in the impact of the three comparisons between means of responses for Context vs Input; Context vs Process; and Input vs Process, as the values of t $_{(119)}$ = 1.72, 1.47 and .01 are non-significant at α = .05 (table 4.48). Therefore, the higher mean score of Context (M_C = 3.22), Input (M_I = 3.18), and Process (M_P = 3.18) indicate that Context, Input, and Process factors have significantly more impact on TEs as compared to Product

$(M_{Pr} = 3.04)$ factor of B.Ed. programme. Thus, H_o stands not accepted for the three comparisons between means of responses to Context vs Product; Input vs Product; and Process vs Product factors whereas H_o stands accepted for the three comparisons between means of responses to Context vs Input; Context vs Process; and Input vs Process factors of the B.Ed. programme.

4.1.2.3 Dimensionwise Analysis of Data of Context Factor of Impact of B.Ed. Programme Scores on Teacher Educators
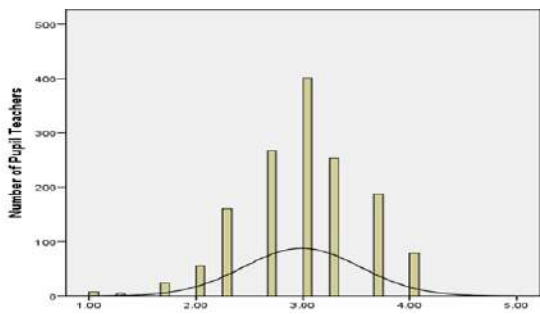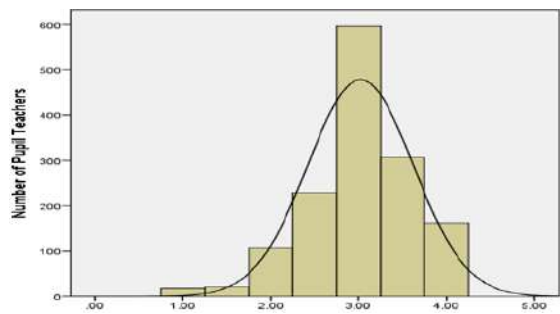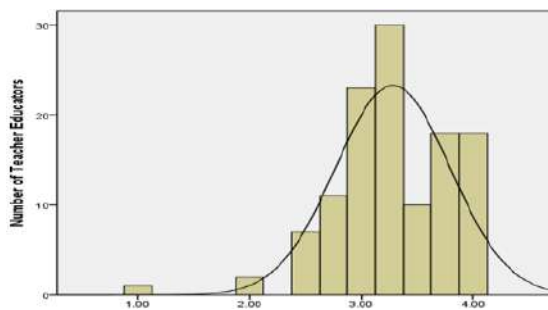

Mean of Ratings of TEs on MV Dimension

Figure 4.40 TEs Rating depicting the contribution of MV dimension of Context Factor towards IBP
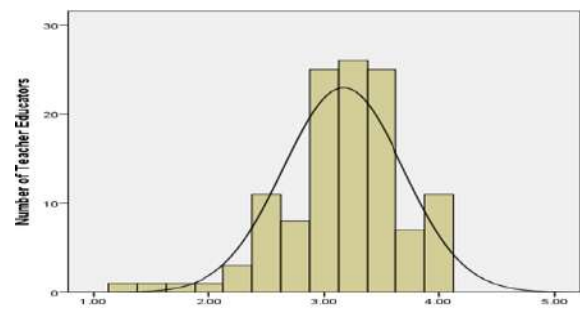
Mean of Ratings of TEs on PO Dimension

Figure 4.41 TEs Rating depicting the contribution of PO dimension of Context Factor towards IBP

In figures 4.40 to 4.41, the distribution of the mean of ratings of teacher educators on the two dimensions i.e. Mission & Vision (MV) and Programme Objectives (PO) of Context factor of impact of B.Ed. programme (IBP) follows the pattern of the normal probability curve. It indicates that the data of mean of ratings of teacher educators (TEs) on the two dimensions i.e. Mission & Vision (MV) and Programme Objectives (PO) is normally distributed.

The frequency distribution and synthetic indexes i.e. mean and standard deviations are shown in tables 4.49 and 4.50 for the dimensionwise impact of B.Ed. programme, related to Context factor, on teacher educators. The strongly disagree and disagree responses show the negative whereas the strongly agree and agree responses show the positive impact of B.Ed. programme on the respondents. Based on the mean of ratings of teacher educators for the two dimensions i.e. mission & vision (MV) and programme objectives

(PO) of Context factor in ESIBP-TEs, it is found that the maximum number of teacher educators (N_{MV} = 110, 91.67% and N_{PO} =102, 85%) have a positive impact of B.Ed. programme and their mean ratings varied from 2.51 to 4.00 (table 4.49).

Table 4.49

Frequency Distribution of Mean of Ratings of Teacher Educators on Two Dimensions of Context Factor of ESIBP-TEs

S. No.	IBP	Mean of Ratings	Number of Teacher Educators	
			Mission & Vision (MV)	Programme Objectives (PO)
1	Negative	1.00 – 2.50	10	18
2	Positive	2.51 – 4.00	110	102
Total			120	120

The synthetic indexes for the two dimensions i.e., Mission & Vision (MV) and Programme Objectives (PO) of Context factor of impact of B.Ed. programme are 3.28 & 3.17 as mean values; and .51 & .52 as standard deviation values, respectively (table 4.50). It is found that both dimensions have a positive impact on teacher educators. The mean value of the ratings for dimension mission & vision (3.28) is higher than the dimension programme objectives (3.17).

Table 4.50

Means Matrix Showing Significance of Difference in Means of Two Dimensions of Context Factor regarding Impact of B.Ed. Programme on Teacher Educators

Dimension ⟶			MV	PO
	M ⟶		3.28	3.17
	SD ↓		.51	.52
Mission & Vission (MV)	3.28 .51	r t	-	.71** 3.16**
Programme Objectives (PO)	3.17 .52	r t		-

** $\alpha = .01$

The significance of the difference between these means have been compared and shown in the means matrix presented above (table 4.50) and tested against the following null hypothesis:

H$_o$:	There is no significant difference in the impact of two dimensions of the Context factor of B.Ed. programme on teacher educators.

There is a significant difference in the impact of comparison between means of responses for the dimension mission & vision over the dimension programme objectives as the value of t $_{(119)}$ = 3.16 is significant at α = .01 (table 4.50). Therefore, the higher mean score of mission & vision (M$_{MV}$ = 3.28) dimension indicates that the dimension mission & vision has significantly more impact on TEs as compared to the dimension programme objectives (M$_{PO}$ = 3.17). Thus, H$_o$ stands not accepted for a comparison between means of responses to the dimensions mission & vision vs programme objectives of Context factor of B.Ed. programme.

4.1.2.4 Dimensionwise Analysis of Data of Input Factor of Impact of B.Ed. Programme Scores on Teacher Educators

In figures 4.42 to 4.46, the distribution of the mean of ratings of teacher educators on the five dimensions i.e. Academic Input (AI), Training Input (TI), Resource Input (RI), Professional Input (PI), and Evaluation Input (EI) of Input factor of impact of B.Ed. programme follows the pattern of the normal probability curve. It indicates that the data of mean of ratings of teacher educators (TEs) on the five dimensions of Input factor of impact of B.Ed. programme (IBP) is normally distributed.
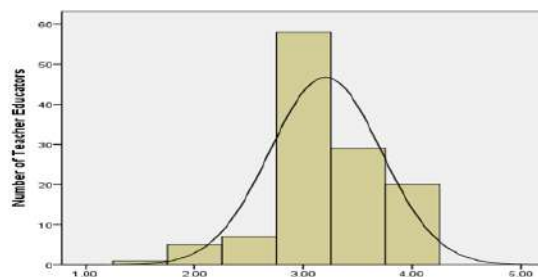
Mean of Ratings of TEs on AI Dimension

Figure 4.42 TEs Rating depicting the contribution of AI dimension of Input Factor towards IBP
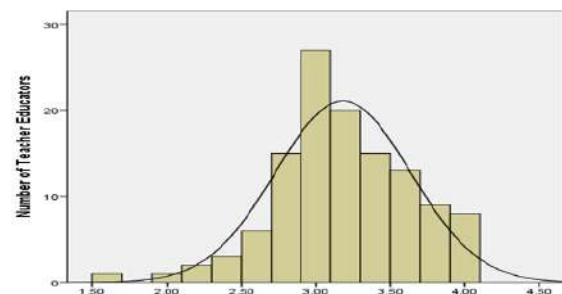
Mean of Ratings of TEs on TI Dimension

Figure 4.43 TEs Rating depicting the contribution of TI dimension of Input Factor towards IBP
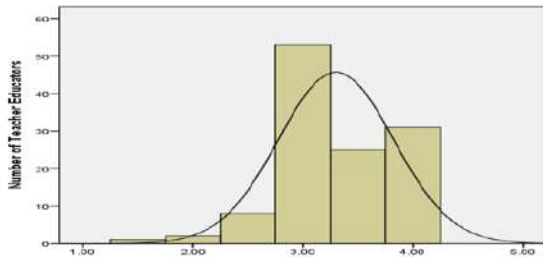
Mean of Ratings of TEs on RI Dimension

Figure 4.44: TEs Rating depicting the contribution of RI dimension of Input Factor towards IBP
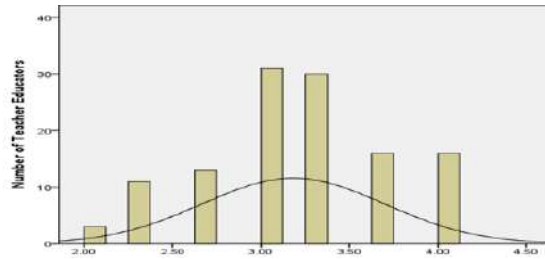
Mean of Ratings of TEs on PI Dimension

Figure 4.45: TEs Rating depicting the contribution of PI dimension of Input Factor towards IBP
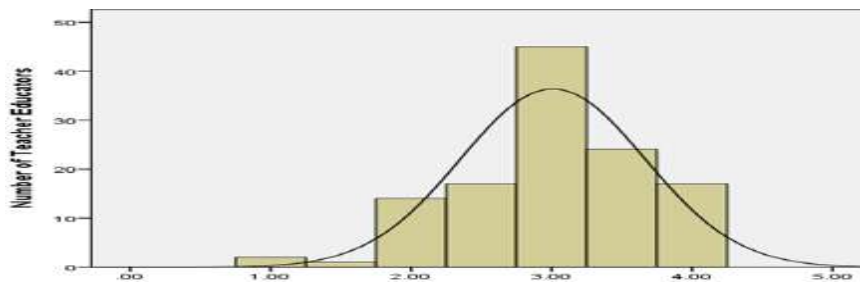
Mean of Ratings of TEs on EI Dimension

Figure 4.46: TEs Rating depicting the contribution of EI dimension of Input factor towards IBP

The frequency distribution and synthetic indexes i.e. mean and standard deviations are shown in tables4.51 and 4.52 for the dimensionwise impact of B.Ed. programme, related to Input factor, on teacher educators. The strongly disagree and disagree responses show the negative whereas the strongly agree and agree responses show the positive impact of B.Ed. programme on the respondents. Based on the mean of ratings of teacher educators for the five dimensions of Input factor in ESIBP-TEs, it is found that the maximum number of teacher educators ($N_{AI} = 107$, 89.17%; $N_{TI} = 113$, 94.17%; $N_{RI} = 109$, 90.83%; $N_{PI} = 106$, 88.33% and $N_{EI} = 86$, 71.67%) have a positive impact of B.Ed. programme and their mean ratings varied from 2.51 to 4.00 (table 4.51).

Table 4.51

Frequency Distribution of Mean of Ratings of Teacher Educators on Five Dimensions of Input Factor of ESIBP-TEs

S. No.	IBP	Mean of Ratings	Number of Teacher Educators				
			AI	TI	RI	PI	EI
1	Negative	1.00 – 2.50	13	07	11	14	34
2	Positive	2.51 – 4.00	107	113	109	106	86
Total			120	120	120	120	120

The synthetic indexes for the five dimensions i.e., Academic Input (AI), Training Input (TI), Resource Input (RI), Professional Input (PI), and Evaluation Input (EI) of Input factor of impact of B.Ed. programme are 3.20, 3.18, 3.30, 3.18 & 3.01 as mean values; and .51, .45, .52, .52 & .66 as standard deviation values, respectively (table 4.52). It indicates that all the five dimensions of the Input factor have a positive impact on teacher educators. The range of the mean of ratings is from 3.01 to 3.30, and the arrangement of these mean values in descending order of their impact on teacher educators is as follows:

RI (3.30) > AI (3.20) > PI (3.18) = TI (3.18) > EI (3.01)

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.52 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of five dimensions of the Input factor of B.Ed. programme on teacher educators.

There are significant differences in the impact of the six comparisons between means of responses for the dimension resource input over the dimensions professional input, training input, and evaluation input as the values of t $_{(119)}$ = 2.10, 2.49, and 4.57 are significant at α = .05 and .01; for the dimensions, academic input, professional input, and training input over the dimension evaluation input as the values of t $_{(119)}$ = 3.61, 3.56 and 2.91 are significant at α = .01; and there are non-significant differences in the impact of the four comparisons between means of responses for the dimensions resource input vs academic input; academic input vs professional input; academic input vs training input

Table 4.52

Means Matrix Showing Significance of Difference in Means of Five Dimensions of Input Factor regarding Impact of B.Ed. Programme on Teacher Educators

Dimension →			RI	AI	PI	TI	EI
↓	**M**		3.30	3.20	3.18	3.18	3.01
	SD ↓		.52	.51	.52	.45	.68
Resource Input (RI)	3.30	r	-	.38**	.31**	.44**	.32**
	.52	t		1.82	2.10**	2.49*	4.57**
Academic Input (AI)	3.20	r		-	.57**	.43**	.51**
	.51	t			.49	.48	3.61**
Professional Input (PI)	3.18	r			-	.54**	.61**
	.52	t				.03	3.56**
Training Input (TI)	3.18	r				-	.36**
	.45	t					2.91**
Evaluation Input (EI)	3.01	r					-
	.68	t					

** $\alpha = .01$ and * $\alpha = .05$

and professional input vs training input, as the values of t $_{(119)}$ = 1.82, .49, .48 and .03 are non-significant at $\alpha = .05$ (table 4.52). Therefore, the higher mean score of the dimension resource input (M_{RI} = 3.30) indicates that the dimension resource input (RI) has significantly more impact on teacher educators as compared to the dimensions professional input (M_{PI} = 3.18), training input (M_{TI} = 3.18) and evaluation input (M_{EI} = 3.01). On the other hand, the dimensions resource input vs academic input; academic input vs professional input; academic input vs training input, and professional input vs training input has no significant difference in the impact on teacher educators. Thus, H$_o$ stands not accepted for the three comparisons between means of responses to the dimensions resource input vs professional input; resource input vs training input; and resource input vs evaluation input whereas H$_o$ stands accepted for the four comparisons between means of responses to the dimensions resource input vs academic input; academic input vs professional input; academic input vs training input and professional input vs training input of Input factor of B.Ed. programme.

4.1.2.5 Dimensionwise Analysis of Data of Process Factor of Impact of B.Ed. Programme Scores on Teacher Educators

In figures 4.47 to 4.50, the distribution of the mean ratings of teacher educators on the four dimensions i.e. Pedagogical Process (PDP), Evaluation Process (EP), Professional Process (PP), and Training Process (TP) of Process factor of impact of B.Ed. programme follows the pattern of the normal probability curve. It indicates that the data of mean of ratings of teacher educators (TEs) on the five dimensions of Process factor of impact of B.Ed. programme is normally distributed.
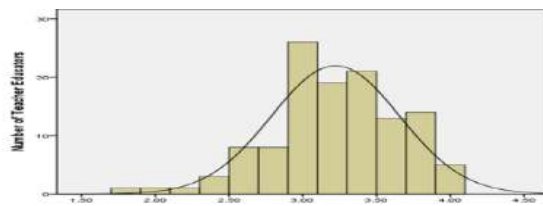
Mean of Ratings of TEs on PDP Dimension

Figure 4.47 TEs Rating depicting the contribution of PDP dimension of Process Factor towards IBP
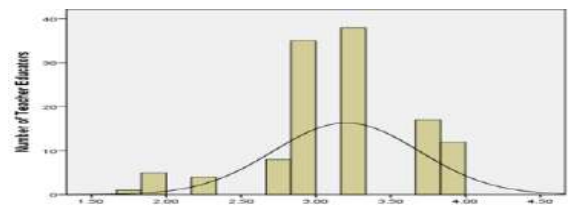
Mean of Ratings of TEs on EP Dimension

Figure 4.48 TEs Rating depicting the contribution of EP dimension of Process Factor towards IBP
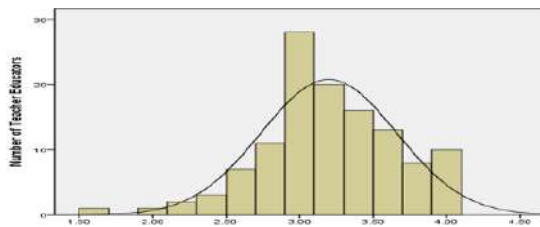
Mean of Ratings of TEs on PP Dimension

Figure 4.49: TEs Rating depicting the contribution of PP dimension of Process Factor towards IBP
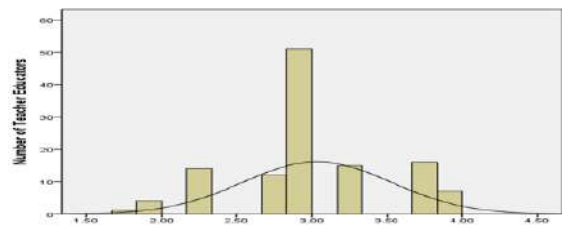
Mean of Ratings of TEs on TP Dimension

Figure 4.50: TEs Rating depicting the contribution of TP dimension of Process Factor towards IBP

The frequency distribution and synthetic indexes i.e. mean and standard deviations are shown in tables 4.53 and 4.54 for the dimensionwise impact of B.Ed. programme, related to Process factor, on teacher educators. The strongly disagree and disagree responses show the negative whereas the strongly agree and agree responses show the positive

impact of B.Ed. programme on the respondents. Based on the mean ratings of teacher educators for the four dimensions of Process factor in ESIBP-TEs, it is found that the maximum number of teacher educators (N_{PDP} = 114, 95%; N_{EP} = 110, 91.67% N_{PP} = 113, 94.17% and N_{TP} =101, 84.17%) have a positive impact of B.Ed. programme and their mean ratings varied from 2.51 to 4.00 (table 4.53).

Table 4.53

Frequency Distribution of Mean of Ratings of Teacher Educators on Four Dimensions of ProcessFactorof ESIBP-TEs

S. No.	IBP	Mean of Ratings	Number of Teacher Educators			
			PDP	EP	PP	TP
1	Negative	1.00 – 2.50	06	10	07	19
2	Positive	2.51 – 4.00	114	110	113	101
Total			120	120	120	120

The synthetic indexes for the four dimensions i.e., Pedagogical Process (PDP), Evaluation Process (EP), Professional Process (PP), and Training Process (TP) of Process factor of impact of B.Ed. programme are 3.22, 3.20, 3.20 & 3.03 as mean values; and .44, .49, .46 & .49 as standard deviation values, respectively (table 4.54). It indicates that all four dimensions of the Process factor have a positive impact on teacher educators. The range of the mean of ratings is from 3.03 to 3.22; the arrangement of these mean values in descending order of their impact on teacher educators is as follows:

PDP (3.22)>EP (3.20) = PP (3.20) >TP (3.03)

The significance of the difference between these means have been compared and shown in the means matrix presented in the table 4.54 and are tested against the following hypothesis:

H_o: There is no significant difference in the impact of four dimensions of the Process factor of B.Ed. programme on teacher educators.

Table 4.54

Means Matrix Showing Significance of Difference in Means of Four Dimensions of Process Factor regarding Impact of B.Ed. Programme on Teacher Educators

Dimension ⟶			PDP	EP	PP	TP
	M		3.22	3.20	3.20	3.03
	SD		.44	.49	.46	.49
Pedagogical Process (PDP)	3.22	**r**	-	**.67****	**.79****	**.52****
	.44	**t**		.56	.87	**4.48****
Evaluation Process (EP)	3.20	**r**		-	**.69****	**.50****
	.49	**t**			.12	**3.76****
Professional Process (PP)	3.20	**r**			-	**.63****
	.46	**t**				**4.38****
Training Process (TP)	3.03	**r**				-
	.49	**t**				

** *α = .01*

There are significant differences in the impact of the three comparisons between means of responses for the dimensions pedagogical process, evaluation process, and professional process over the dimension training process, as the values of t $_{(119)}$ = 4.48, 3.76, and 4.38 are significant at α = .01; and there are non-significant differences in the impact of the three comparisons between means of responses for the dimensions pedagogical process vs evaluation process; pedagogical process vs professional process; and evaluation process vs professional process, as the values of t $_{(119)}$ = .56, .87 and .12 are non-significant at α = .05 (table 4.54). Therefore, the higher mean score of the dimension pedagogical process (M_{PDP} = 3.22), evaluation process (M_{EP} = 3.20), and professional process (M_{PP} = 3.20) indicate that the dimensions pedagogical process, evaluation process, and PP have significantly more impact on teacher educators as compared to the dimension training process (M_{TP} = 3.03). On the other hand, the dimensions of the Process factor i.e. pedagogical process vs evaluation process; pedagogical process vs professional process; and evaluation process vs professional process have no significant difference in the impact on teacher educators. Thus, H_o stands not accepted for the three comparisons between means of responses to the dimensions pedagogical process vs training process; evaluation process vs training process; and professional process vs

training process whereas H_o stands accepted for the three comparisons between means of responses to the dimensions pedagogical process vs evaluation process; pedagogical process vs professional process; and evaluation process vs professional process of Process factor of B.Ed. programme.

4.1.2.6 Dimensionwise Analysis of Data of Product Factor of Impact of B.Ed. Programme Scores on Teacher Educators

In figures 4.51 to 4.55, the distribution of the mean of ratings of teacher educators on the five dimensions i.e. Academic & Non-Academic Responsibilities (ANARPr), Resource Consultation (RCPr), Professional Training (PTPr), Evaluation Responsibilities (ERPr) and Social Responsibilities (SRPr) of Product factor of impact of B.Ed. programme follows the pattern of the normal probability curve. It indicates that the data of mean of ratings of teacher educators on the five dimensions of Product factor of impact of B.Ed. programme is normally distributed.
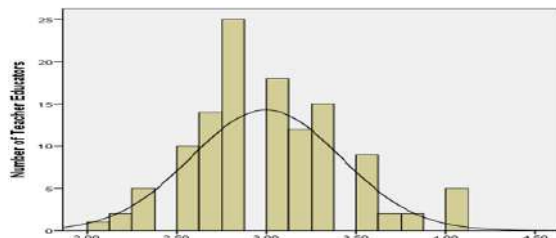
Mean of Ratings of TEs on ANAPr Dimension

Figure 4.51 TEs Rating depicting the contribution of ANAPr dimension of Product Factor towards IBP
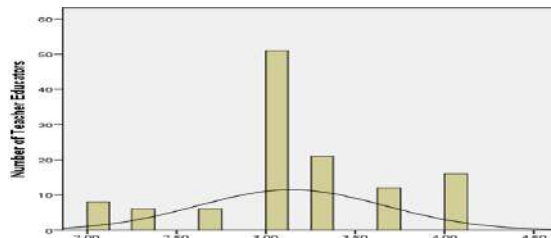
Mean of Ratings of TEs on RCPr Dimension

Figure 4.52 TEs Rating depicting the contribution of RCPr dimension of Product Factor towards IBP
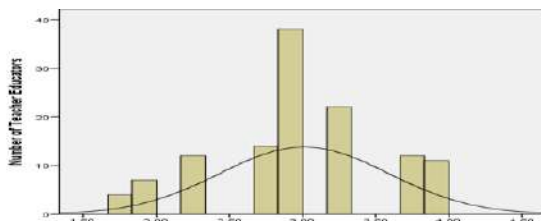
Mean of Ratings of TEs on PTPr Dimension

Figure 4.53: TEs Rating depicting the contribution of PTPr dimension of Product Factor towards IBP
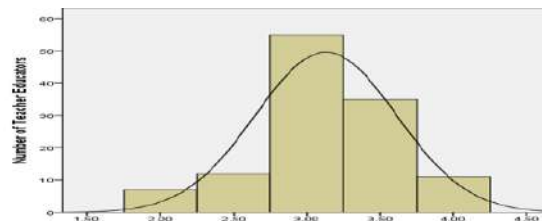
Mean of Ratings of TEs on ERPr Dimension

Figure 4.54: TEs Rating depicting the contribution of ERPr dimension of Product Factor towards IBP
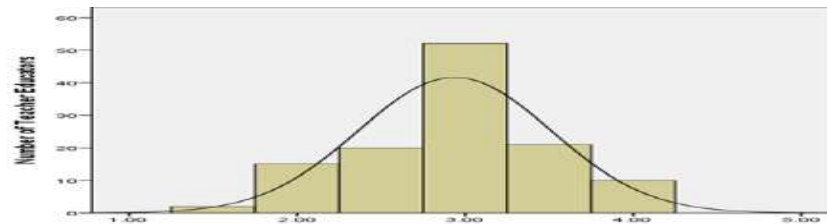
Mean of Ratings of TEs on SRPr Dimension

Figure 4.55: TEs Rating depicting the contribution of SRPr dimension of Product Factor towards IBP

The frequency distribution and synthetic indexes i.e. mean and standard deviations are shown in tables 4.55 and 4.56 for the dimensionwise impact of B.Ed. programme, related to Product factor, on teacher educators. The strongly disagree and disagree responses show the negative whereas the strongly agree and agree responses show the positive impact of B.Ed. programme on the respondents. Based on the mean of ratings of teacher educators (TEs) for the five dimensions of Product factor in ESIBP-TEs, it is found that the maximum number of teacher educators (N_{ANARPr} = 102, 85%; N_{RCPr} = 106, 88.33%; N_{PTPr} = 97, 80.83%; N_{ERPr} = 101, 84.17%; and N_{SRPr} = 83, 69.17%) have a positive impact of B.Ed. programme and their mean of ratings varied from 2.51 to 4.00 (table 4.55).

Table 4.55

Frequency Distribution of Mean of Ratings of Teacher Educators on Five Dimensions of ProductFactorof ESIBP-TEs

S. No.	IBP	Mean of Ratings	Number of Teacher Educators				
			ANARPr	RCPr	PTPr	ERPr	SRPr
1	Negative	1.00 – 2.50	18	14	23	19	37
2	Positive	2.51 – 4.00	102	106	97	101	83
Total			120	120	120	120	120

The synthetic indexes for the five dimensions i.e., Academic & Non-Academic Responsibilities (ANARPr), Resource Consultation (RCPr), Professional Training (PTPr), Evaluation Responsibilities (ERPr), and Social Responsibilities (SRPr) of Product factor of impact of B.Ed. programme are 3.00, 3.14, 3.01, 3.13 & 2.94 as mean

values; and .42, .52, .58, .48 & .57 as standard deviation values, respectively (table 4.56). It is found that all the five dimensions of the Product factor have a positive impact on teacher educators. The range of the mean of ratings is from 2.94 to 3.14; the arrangement of these mean values in descending order of their impact on teacher educators is as follows:

RCPr (3.14) >ERPr (3.13) >PTPr (3.01) >ANARPr (3.00)> SRPr (2.94)

The significance of the difference between these means have been compared and shown in the means matrix presented below (table 4.56) and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of five dimensions of the Product factor of B.Ed. programme on teacher educators.

Table 4.56

Means Matrix Showing Significance of Difference in Means of Five Dimensions of Product Factor regarding Impact of B.Ed. Programme on Teacher Educators

Dimension ⟶			RCPr	ERPr	PTPr	ANARPr	SRPr
	M ⟶		3.14	3.13	3.01	3.00	2.94
	SD ↓		.52	.48	.58	.42	.57
Resource Consultation Product (RCPr)	3.14	**r**	-	**.52****	**.57****	**.55****	**.65****
	.52	**t**		.27	**2.77****	**3.45****	**4.84****
Evaluation Responsibilities Product (ERPr)	3.13	**r**		-	**.47****	**.62****	**.53****
	.48	**t**			**2.35***	**3.64****	**4.04****
Professional Training Product (PTPr)	3.01	**r**			-	**.69****	**.68****
	.58	**t**				.37	1.75
Academic & Non-Academic Responsibilities Product (ANARPr)	3.00	**r**				-	**.68****
	.42	**t**					1.54
Social Responsibilities Product (SRPr)	2.94	**r**					-
	.57	**t**					

** *α = .01 and* * *α = .05*

There are significant differences in the impact of the six comparisons between means of responses for the dimension resource consultation product over the dimensions professional training product, academic & non-academic responsibilities product and social responsibilities product, as the values of t $_{(119)}$ = 2.77, 3.45 and 4.84 are significant

at α = .01; for the dimension evaluation responsibilities product over the dimensions professional training product, academic & non-academic responsibilities product and social responsibilities product, as the values of t $_{(119)}$ = 2.35, 3.64 and 4.04 are significant at α = .05 and .01; and there are non-significant differences in the impact of the four comparisons between means of responses for the dimensions resource consultation product vs evaluation responsibilities product; professional training product vs academic & non-academic responsibilities product; professional training product vs social responsibilities product; and academic & non-academic responsibilities product vs social responsibilities product, as the values of t $_{(119)}$ = .27, .37, 1.75 and 1.54 are non-significant at α = .05 (table 4.56). Therefore, the higher mean score of the dimensions resource consultation product (M_{RCPr} = 3.14) and evaluation responsibilities product (M_{ERPr} = 3.13) both indicates that the dimensions resource consultation product and evaluation responsibilities product have significantly more impact on the teacher educators as compared to the dimensions professional training product (M_{PTPr} = 3.01), academic & non-academic responsibilities product (M_{ANARPr} = 3.00) and social responsibilities product (M_{SRPr} = 2.94). On the other hand, the dimensions resource consultation product vs evaluation responsibilities product; professional training product vs academic & non-academic responsibilities product; professional training product vs social responsibilities product; and academic & non-academic responsibilities product vs social responsibilities product have no significant difference in the impact on teacher educators. Thus, H$_o$ stands not accepted for the six comparisons between means of responses to the dimensions resource consultation product vs professional training product; resource consultation product vs academic & non-academic responsibilities product; resource consultation product vs social responsibilities product; evaluation responsibilities product vs professional training product; evaluation responsibilities product vs academic & non-academic responsibilities product; and evaluation responsibilities product vs social responsibilities product whereas H$_o$ stands accepted for the four comparisons between means of responses to the dimensions resource consultation product vs evaluation responsibilities product; professional training product

vs academic & non-academic responsibilities product; professional training product vs social responsibilities product; and academic & non-academic responsibilities product vs social responsibilities product of Product factor of B.Ed. programme.

4.1.2.7 Statementwise Analysis of Data of Mission & Vision Dimension of Context Factor of Impact of B.Ed. Programme on Teacher Educators

The synthetic indexes for the four statements of Mission & Vision (MV) dimension of the impact of B.Ed. programme are 3.36, 3.30, 3.36, and 3.11 (table 4.57) as mean values; which indicates that there is a positive impact of the four statements on teacher educators. The arrangement of mean values in descending order of their impact on teacher educators is as follows:

$$MV_3\ (3.36) = MV_1\ (3.36) > MV_2\ (3.30) > MV_4\ (3.11)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the two statements MV_3 (Develops skills to deal with the diverse problems of class in them) and MV_1 (Develops prospective teachers into a competent professional) have more impact on teacher educators as compared to other two statements MV_2 (Emphasizes on the holistic development of prospective teachers) and MV_4 (Develops inclusive competencies to deal with diverse students) as mission & vision (MV) dimension of Context factor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.57 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of four statements of mission & vision dimension of Context factor of B.Ed. programme on teacher educators.

There are significant differences in the impact of the three comparisons between means of responses for the statements MV_3, MV_1, and MV_2 over the statement MV_4, as the values of t $_{(119)}$ = 3.97, 3.78, and 3.16 are significant at α = .01 and there are non-significant differences in the impact of the three comparisons between means of responses for the statements MV_3 vs MV_1, MV_3 vs MV_2 and MV_1 vs MV_2, as the values of t $_{(119)}$ = .00, .98 and 1.00 are non-significant at α = .05 (table 4.57).

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Table 4.57

Means Matrix Showing Significance of Difference in Means of Four Statements of Mission & Vision Dimension of Context Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements ⟶			MV$_3$	MV$_1$	MV$_2$	MV$_4$
	M ⟶		3.36	3.36	3.30	3.11
↓	**SD** ↓		.67	.68	.63	.67
MV$_3$	3.36	r	-	.40**	.50**	.47**
	.67	t		.00	.98	3.97**
MV$_1$	3.36	r		-	.53**	.43**
	.68	t			1.00	3.78**
MV$_2$	3.30	r			-	.48**
	.63	t				3.16**
MV$_4$	3.11	r				-
	.67	t				

$^{**}\alpha = .01$ and $^{*}\alpha = .05$

MV$_1$ (Develops prospective teachers into a competent professional); MV$_2$ (Emphasizes on the holistic development of prospective teachers); MV$_3$ (Develops skills to deal with the diverse problems of class in them); and MV$_4$ (Develops inclusive competencies to deal with diverse students)

Therefore, the higher mean score of MV$_3$ (M$_{MV3}$ = 3.36), MV$_1$ (M$_{MV1}$ = 3.36), and MV$_2$ (M$_{MV2}$ = 3.30) indicate that MV$_3$, MV$_1$, and MV$_2$ have significantly more impact on teacher educators as compared to MV$_4$ (M$_{MV4}$ = 3.11). On the other hand, the statements MV$_3$ vs MV$_4$; MV$_1$ vs MV$_4$, and MV$_2$ vs MV$_4$ have no significant difference in the impact on teacher educators. Thus, H$_o$ stands not accepted for the three comparisons between means of responses to the statements MV$_3$ vs MV$_4$; MV$_1$ vs MV$_4$; and MV$_2$ vs MV$_4$ whereas H$_o$ stands accepted for the three comparisons between means of responses to the statements MV$_3$ vs MV$_4$; MV$_1$ vs MV$_4$ and MV$_2$ vs MV$_4$ of mission & vision (MV) dimension of Context factor of B.Ed. programme.

Based on the percentages of teacher educators corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.56), it is found that the maximum percentage of teacher educators opted the option agree (A) and strongly agree (SA), which results to the positive impact of the four statements of mission & vision (MV) dimension of Context factor of B.Ed. programme on teacher educators.
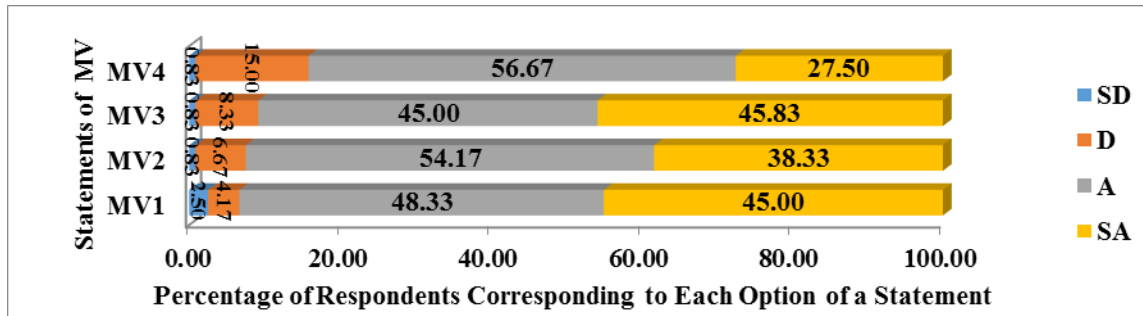
Figure 4.56: Percentage of Responses of Teacher Educators Corresponding to Each Option of Mission and Vision Statements

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented below (table 4.58) and tested against the following null hypothesis:

H_0: There is no significant difference in the positive and negative impact of four statements of mission & vision dimension of Context factor of B.Ed. programme on teacher educators.

Table 4.58

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Four Statements of Mission & Vision Dimension of Context Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements ⟶			MV₁	MV₂	MV₃	MV₄
↓	Nn ↓ %n ↓	Np ⟶ %p	112 93.33	111 92.50	109 90.83	101 84.17
MV₁	8 6.67		t =9.49**	-	-	-
MV₂	9 7.50		-	t =9.31**	-	-
MV₃	11 9.17		-	-	t =8.95**	-
MV₄	19 15.83		-	-	-	t =7.49**

*Np (%p) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; Nn (%n) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01*
MV₁ (Develops prospective teachers into a competent professional); MV₂ (Emphasizes on the holistic development of prospective teachers); MV₃ (Develops skills to deal with the diverse problems of class in them); and MV₄ (Develops inclusive competencies to deal with diverse students)

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There are significant differences between the percentage of teacher educators, who have a positive and negative impact, in all the four statements (i.e. MV_1, MV_2, MV_3, and MV_4), as the values of t = 9.49, 9.31, 8.95, and 7.49 are significant at α = .01 (table 4.58). Therefore, all four statements have a significantly more positive impact on teacher educators as compared to their negative impact. Thus, H_o stands not accepted for statements MV_1, MV_2, MV_3, and MV_4 of mission & vision (MV) dimension of Context factor of B.Ed. programme.

4.1.2.8 Statementwise Analysis of Data of Programme Objective Dimension of Context Factor of Impact of B.Ed. Programme on Teacher Educators

The synthetic indexes for the four statements of Programme Objectives (PO) dimension of the impact of B.Ed. programme is 3.29, 3.11, 3.29, and 2.98 (table 4.59) as mean values; which indicates that there is a positive impact of the four statements on teacher educators. The arrangement of mean values in descending order of their impact on teacher educators is as follows:

$$PO_1 \ (3.29) = PO_3 \ (3.29) > PO_2 \ (3.11) > PO_4 \ (2.98)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the two statements i.e. PO_1 (Focuses upon the practical aspects of teaching and learning process) and PO_3 (Link school knowledge with community life) have more impact on teacher educators as compared to other two statements i.e. PO_2 (Emphasizes on rigorous teaching internship practice) and PO_4 (Increases employment opportunities for prospective teachers) as programme objectives (PO) dimension of Context factor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in the table 4.59 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of four statements of programme objectives dimension of Context factor of B.Ed. programme on teacher educators.

Table 4.59

Means Matrix Showing Significance of Difference in Means of Four Statements of Programme Objectives Dimension of Context Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements→			PO_1	PO_3	PO_2	PO_4
	M →		3.29	3.29	3.11	2.98
↓	**SD** ↓		.63	.68	.72	.81
PO_1	3.29	r	-	.41**	.41**	.38**
	.63	t		.00	2.74**	4.23**
PO_3	3.29	r		-	.47**	.35**
	.68	t			2.78**	4.04**
PO_2	3.11	r			-	.31**
	.72	t				1.61
PO_4	2.98	r				-
	.81	t				

** $\alpha = .01$

PO_1 (Focuses upon the practical aspects of teaching and learning process); PO_2 (Emphasizes on rigorous teaching internship practice); PO_3 (Link school knowledge with community life); and PO_4 (Increases employment opportunities for prospective teachers)

There are significant differences in the impact of the four comparisons between means of responses for the statement PO_1 over the statements PO_2 and PO_4, as the values of t $_{(119)}$ = 2.74 and 4.23 are significant at $\alpha = .01$; for the statement PO_3 over the statements PO_2 and PO_4, as the values of z $_{(119)}$ = 2.78 and 4.04 are statistically significant at $\alpha = .01$; and there are non-significant differences in the impact of the two comparisons between means of responses for the statements PO_1 vs PO_3 and PO_2 vs PO_4, as the values of t $_{(1435)}$ = .00 and 1.61 are non-significant at $\alpha = .05$ (table 4.59). Therefore, the higher mean score of PO_1 (M_{PO1} = 3.29) and PO_3 (M_{PO3} = 3.29) indicates that PO_1 and PO_3 have significantly more impact on teacher educators as compared to the PO_2 (M_{PO2} = 3.11) andPO_4 (M_{PO4} = 2.98). On the other hand, the statements PO_1 vs PO_3 and PO_2 vs PO_4 have no significant difference in the impact on teacher educators. Thus, H_o stands not accepted for the four comparisons between means of responses to the statements PO_1 vs PO_2; PO_1 vs PO_4; PO_3 vs PO_2; and PO_3 vs PO_4 whereas H_o stands accepted for the two comparisons between

means of responses to the statements PO_1 vs PO_3 and PO_2 vs PO_4 of programme objectives (PO) dimension of Context factor of B.Ed. programme.
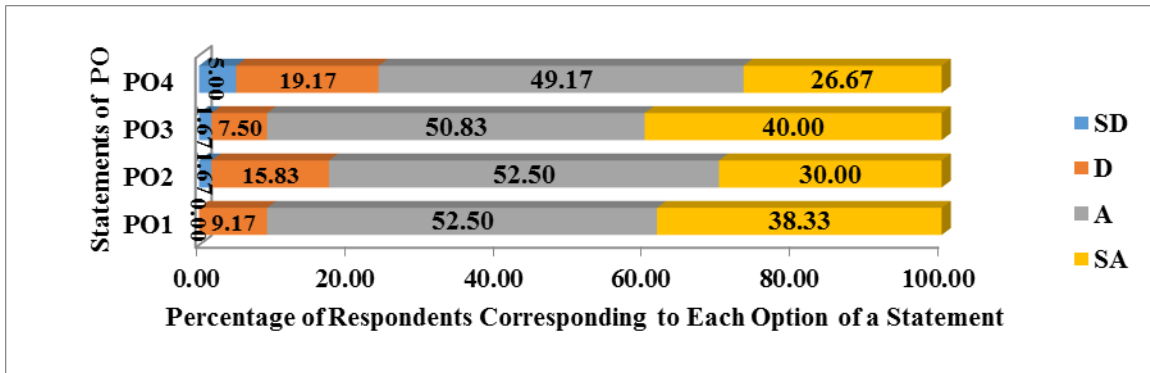
Figure 4.57: **Percentage of Responses of Teacher Educators Corresponding to Each Option of Programme Objectives Statements**

Based on the percentages of teacher educators corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.57), it is found that the maximum percentage of teacher educators opted the option agree (A) and strongly agree (SA) which results to the positive impact of the four statements of programme objectives (PO) dimension of Context factor of B.Ed. programme on teacher educators.

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in the table 4.60 and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of four statements of programme objectives dimension of Context factor of B.Ed. programme on teacher educators.

There are significant differences between the percentage of teacher educators, who have a positive and negative impact, in all the four statements (i.e. PO_1, PO_2, PO_3, and PO_4), as the values of t = 8.95, 7.12, 8.95, and 5.66 are significant at α = .01 (table 4.60).

Table 4.60

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Four Statements of Programme Objectives Dimension of Context Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements ⟶			PO_1	PO_2	PO_3	PO_4
↓	N_n ↓ $\%_n$ ↓	N_p ➤ $\%_p$ ➤	109 90.83	99 82.50	109 90.83	91 75.83
PO_1	11 9.17		$t = 8.95^{**}$	-	-	-
PO_2	21 17.50		-	$t = 7.12^{**}$	-	-
PO_3	11 9.17		-	-	$t = 8.95^{**}$	-
PO_4	29 24.17		-	-	-	$t = 5.66^{**}$

N_p ($\%_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n ($\%_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** $\alpha = .01$
PO_1 (Focuses upon the practical aspects of teaching and learning process); PO_2 (Emphasizes on rigorous teaching internship practice); PO_3 (Link school knowledge with community life); and PO_4 (Increases employment opportunities for prospective teachers)

Therefore, all four statements have a significantly more positive impact on teacher educators as compared to their negative impact. Thus, H_o stands not accepted for statements PO_1, PO_2, PO_3, and PO_4 of programme objectives (PO) dimension of Context factor of B.Ed. programme.

4.1.2.9 Statementwise Analysis of Data of Academic Input Dimension of Input Factor of Impact of B.Ed. Programme on Teacher Educators

The synthetic indexes for the two statements related to the Academic Input (AI) dimension of the impact of B.Ed. programme are 3.28 and 3.13 (table 4.61) as mean values; which indicates that there is a positive impact of the two statements on teacher educators. The mean value of the ratings for statement AI_1 (3.28) is higher than the statement AI_2 (3.13).

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement AI_1 (B.Ed. programme give inputs to include various subject-

specific activities) have more impact on teacher educators as compared to the statement AI_2 (B.Ed. programme give inputs to include subject-specific field-based assignments) as academic input (AI) dimension of Input factor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented below (table 4.61) and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of two statements of academic input dimension of Input factor of B.Ed. programme on teacher educators.

Table 4.61

Means Matrix Showing Significance of Difference in Means of Two Statements of Academic Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements ⟶			AI_1	AI_2
⟱	M ⟶ SD ⟱		3.28 .57	3.13 .68
AI_1	3.28 .57	r t	-	$.40^{**}$ 2.58^{**}
AI_2	3.13 .68	r t		-

$^{**} \alpha = .01$

AI_1 (B.Ed. programme give inputs to include various subject-specific activities) and AI_2 (B.Ed. programme give inputs to include subject-specific field-based assignments)

There is a significant difference in the impact of comparison between means of responses for the statement AI_1 over the statement AI_2, as the value of t $_{(119)}$ = 2.58 is significant at α = .01 (table 4.61). Therefore, the higher mean score of AI_1 (M_{AI1} = 3.28) indicates that AI_1 has significantly more impact on teacher educators as compared to AI_2 (M_{AI2} = 3.13). Thus, H_o stands not accepted for a comparison between means of responses to the statements AI_1 vs AI_2 of academic input (AI) dimension of Input factor of B.Ed. programme.

Based on the percentages of teacher educators corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.58), it is found that the maximum percentage of teacher educators opted the option

agree (A) and strongly agree (SA) which results to the positive impact of the two statements of academic input (AI) dimension of Input factor of B.Ed. programme on teacher educators.
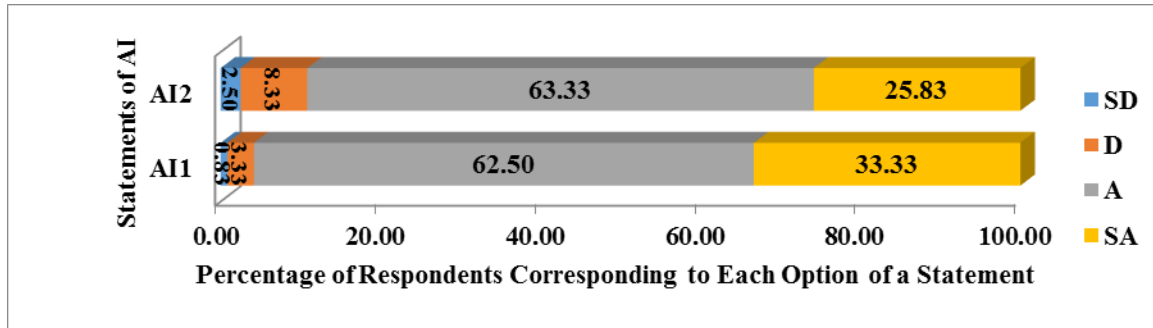
Figure 4.58: Percentage of Responses of Teacher Educators Corresponding to Each Option of Academic Input Statements

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented below (table 4.62) and tested against the following null hypothesis:

H_o: There exists no significant difference in the positive and negative impact of two statements of academic input dimension of Input factor of B.Ed. programme on teacher educators.

Table 4.62

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Two Statements of Academic Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements ⟶			AI$_1$	AI$_2$
⬇	N_n ⬇ $\%_n$	$\underline{N_p}$ ⟶ $\%_p$	115 95.83	107 89.17
AI$_1$	5 4.17		t =10.04[**]	-
AI$_2$	13 10.83		-	t =8.58[**]

N_p (%$_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n (%$_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and [**] α = .01
AI$_1$ (B.Ed. programme give inputs to include various subject-specific activities) and AI$_2$ (B.Ed. programme give inputs to include subject-specific field-based assignments)

There are significant differences between the percentage of teacher educators, who have a positive and negative impact, in both the statements (i.e. AI_1 and AI_2), as the values of t = 10.04 and 8.58 are significant at α = .01 (table 4.62). Therefore, both the statements have a significantly more positive impact on teacher educators as compared to their negative impact. Thus, H_o stands not accepted for the statements AI_1 and AI_2 of academic input (AI) dimension of Input factor of B.Ed. programme.

4.1.2.10   Statementwise Analysis of Data of Training Input Dimension of Input Factor of Impact of B.Ed. Programme on Teacher Educators

The synthetic indexes for the five statements related to the Training Input (TI) dimension of the impact of B.Ed. programme are 3.08, 3.28, 3.22, 3.22, and 3.12 (table 4.63) as mean values; which indicates that there is a positive impact of the five statements on teacher educators. The arrangement of mean values in descending order of their impact on teacher educators is as follows:

$$TI_2\ (3.28) > TI_3\ (3.22) = TI_4\ (3.22) > TI_5\ (3.12) > TI_1\ (3.08)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement TI_2 (B.Ed. programme give input to supervise simulated teaching for training in teaching skill) has more impact on teacher educators as compared to the other four statements i.e. TI_3 (B.Ed. programme give input to orient pupil teachers as per guidelines of teaching internship handbook); TI_4 (B.Ed. programme give input to supervise fieldwork of two weeks in schools); TI_5 (B.Ed. programme give input to supervise teaching internship of 14 weeks in schools); and TI_1 (B.Ed. programme give input to the execution of diverse projects) as training input (TI) dimension of Inputfactor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.63 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of five statements of training input dimension of Input factor of B.Ed. programme on teacher educators.

Table 4.63

Means Matrix Showing Significance of Difference in Means of Five Statements of Training Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements →			TI_2	TI_3	TI_4	TI_5	TI_1
	M		3.28	3.22	3.22	3.12	3.08
	SD		.70	.62	.68	.74	.72
TI_2	3.28	r	-	.44**	.35**	.28**	.36**
	.70	t		.91	.82	2.02*	2.62**
TI_3	3.22	r		-	.47**	.13	.28**
	.62	t			.00	1.22	1.81
TI_4	3.22	r			-	.41**	.12
	.68	t				1.42	1.58
TI_5	3.12	r				-	.13
	.74	t					.38
TI_1	3.08	r					-
	.72	t					

** $\alpha = .01$ and * $\alpha = .05$

TI_1 (B.Ed. programme give input to the execution of diverse projects); TI_2 (B.Ed. programme give input to supervise simulated teaching for training in teaching skill); TI_3 (B.Ed. programme give input to orient pupil teachers as per guidelines of teaching internship handbook); TI_4 (B.Ed. programme give input to supervise fieldwork of two weeks in schools); and TI_5 (B.Ed. programme give input to supervise teaching internship of 14 weeks in schools)

There are significant differences in the impact of the two comparisons between means of responses for the statement TI_2 over the statements TI_5 and TI_1, as the values of $t_{(119)} = 2.02$ and 2.62 are significant at $\alpha = .05$ and $.01$; and there are non-significant differences in the impact of the eight comparisons between means of responses for the statements TI_2 vs TI_3, TI_2 vs TI_4, TI_3 vs TI_4, TI_3 vs TI_5, TI_3 vs TI_1, TI_4 vs TI_5, TI_4 vs TI_1 and TI_5 vs TI_1, as the values of $t_{(1435)} = .91$, $.82$, $.00$, 1.42 and $.38$ are non-significant at $\alpha = .05$ (table 4.63). Therefore, the higher mean score of TI_2 ($M_{TI2} = 3.28$) indicates that TI_2 has significantly more impact on teacher educators as compared to TI_5 ($M_{TI5} = 3.12$) and TI_1 ($M_{TI1} = 3.08$). On the other hand, the statements TI_2 vs TI_3 and TI_2 vs TI_4; TI_3 vs TI_4, TI_3 vs TI_5 and TI_3 vs TI_1; TI_4 vs TI_5 and TI_4 vs TI_1; and TI_5 vs TI_1 have no significant difference in the impact on teacher educators. Thus, H_o stands not accepted for the two

comparisons between means of responses for the statements TI_2 vs TI_5 and TI_2 vs TI_1 whereas H_o stands accepted for the eight comparisons between means of responses for the statements TI_2 vs TI_3 and TI_2 vs TI_4; TI_3 vs TI_4, TI_3 vs TI_5 and TI_3 vs TI_1; TI_4 vs TI_5 and TI_4 vs TI_1; and TI_5 vs TI_1 of training input (TI) dimension of Input factor of B.Ed. programme.
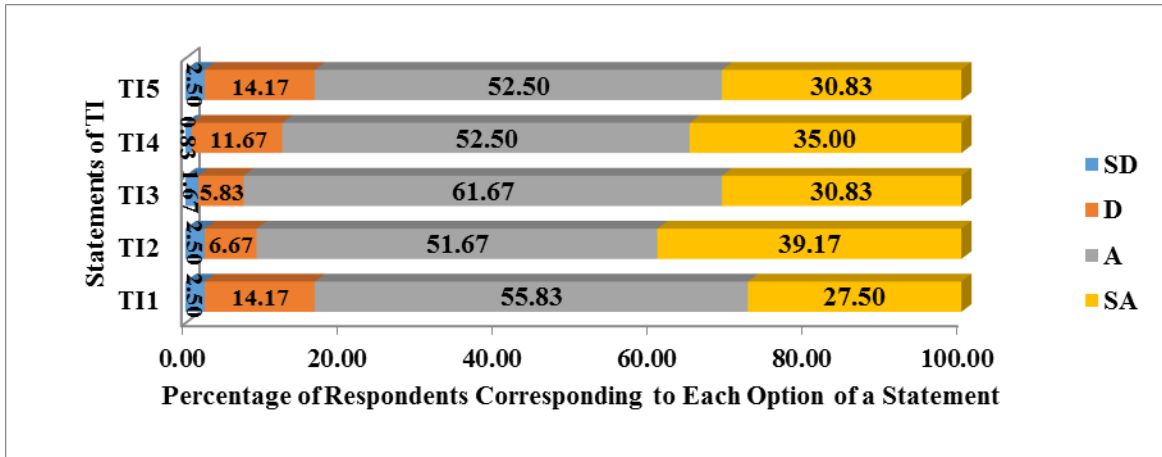
Figure 4.59: Percentage of Responses of Teacher Educators Corresponding to Each Option of Training Input Statements

Based on the percentages of teacher educators corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.59), it is found that the maximum percentage of teacher educators opted the option agree (A) and strongly agree (SA) which results to the positive impact of the five statements of training input (TI) dimension of Input factor of B.Ed. programme on teacher educators.

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in table 4.64 and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of five statements of training input dimension of Input factor of B.Ed. programme on teacher educators.

Table 4.64

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Five Statements of Training Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements →	N_n ↓ %n ↓	N_p → %p →	TI₁ 100 83.33	TI₂ 109 90.83	TI₃ 111 92.50	TI₄ 105 87.50	TI₅ 100 83.33
TI₁	20 16.67		$t = 7.30^{**}$	-	-	-	-
TI₂	11 9.17		-	$t = 8.95^{**}$	-	-	-
TI₃	9 7.50		-	-	$t = 9.31^{**}$	-	-
TI₄	15 12.50		-	-	-	$t = 8.22^{**}$	-
TI₅	20 16.67		-	-	-	-	$t = 7.30^{**}$

N_p (%p) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n (%n) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01
TI₁ (B.Ed. programme give input to the execution of diverse projects); TI₂ (B.Ed. programme give input to supervise simulated teaching for training in teaching skill); TI₃ (B.Ed. programme give input to orient pupil teachers as per guidelines of teaching internship handbook); TI₄ (B.Ed. programme give input to supervise fieldwork of two weeks in schools); and TI₅ (B.Ed. programme give input to supervise teaching internship of 14 weeks in schools)

There are significant differences between the percentage of teacher educators, who have a positive and negative impact, in all the five statements (i.e. TI₁, TI₂, TI₃, TI₄, and TI₅), as the values of t = 7.30, 8.95, 9.31, 8.22, and 7.30 are significant at α = .01 (table 4.64). Therefore, all five statements have a significantly more positive impact on teacher educators as compared to their negative impact. Thus, H₀ stands not accepted for statements TI₁, TI₂, TI₃, TI₄, and TI₅ of training input (TI) dimension of Input factor of B.Ed. programme.

4.1.2.11 Statementwise Analysis of Data of Resource Input Dimension of Input Factor of Impact of B.Ed. Programme on Teacher Educators

The synthetic indexes for the two statements related to the Resource Input (RI) dimension of the impact of B.Ed. programme are 3.30 and 3.30 (table 4.65) as mean values; which

indicates that there is a positive impact of the two statements on teacher educators. The mean value of the ratings for statement RI_1 (3.30) is equal to the statement RI_2 (3.30).

Based on the above order of statements with respect to their synthetic mean values, it is found that both the statements i.e. RI_1 (Use different learning resource) and RI_2 (Use modern learning facilities in classroom teaching) have equal impact on teacher educators as resource input (RI) dimension of Inputfactor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.65 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of two statements of resource input dimension of Input factor of impact of B.Ed. programme on teacher educators.

There is a non-significant difference in the impact of comparison between means of responses for the statement RI_1 and the statement RI_2, as the value of t $_{(119)}$ = .00 is non-significant at α = .05 (table 4.65).

Table 4.65

Means Matrix Showing Significance of Difference in Means of Two Statements of Resource Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements ⟶			RI_1	RI_2
↓	M ⟶ SD↓		3.00 .56	3.00 .63
RI_1	3.00 .56	r t	-	.55** .00
RI_2	3.00 .63	r t		-

** α = .01
RI_1 (Use different learning resource) and RI_2 (Use modern learning facilities in classroom teaching)

Therefore, the equal mean score of RI_1 (M_{RI1} = 3.00) and RI_2 (M_{RI2} = 3.00) indicates that statements RI_1 and RI_2 have no significant difference in the impact on teacher educators.

Thus, H_o stands accepted for a comparison between means of responses to the statements RI_1 vs RI_2 of resource input (RI) dimension of Input factor of B.Ed. programme.

Based on the percentages of teacher educators corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.60), it is found that the maximum percentage of teacher educators opted the option agree (A) and strongly agree (SA) which results to the positive impact of the two statements of resource input (RI) dimension of Input factor of B.Ed. programme on teacher educators.
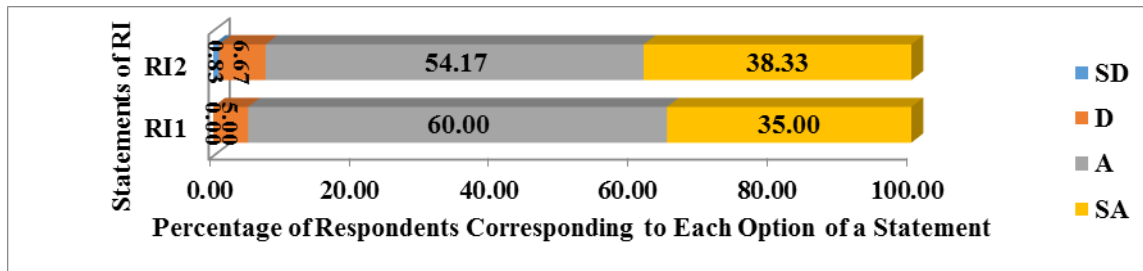
Figure 4.60   Percentage of Responses of Teacher Educators Corresponding to Each Option of Resource Input Statements

Table 4.66

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Two Statements of Resource Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements ⟶			RI_1	RI_2
	N_n ↓ $\%_n$ ↓	N_p ⟶ $\%_p$ ⟶	114 95.00	111 92.50
RI_1	6 5.00		t =9.86**	-
RI_2	9 7.50		-	t =9.31**

*N_p (%$_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n (%$_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01*
RI_1 (Use different learning resource) and RI_2 (Use modern learning facilities in classroom teaching)

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The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in table 4.66 and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of two statements of resource input dimension of Input factor of B.Ed. programme on teacher educators.

There is a significant difference between the percentage of teacher educators, who have a positive and negative impact, in both the statements (i.e. RI_1 and RI_2), as the values of t = 9.86 and 9.31 are significant at α = .01 (table 4.66). Therefore, both the statements have a significantly more positive impact on teacher educators as compared to their negative impact. Thus, H_o stands not accepted for statements RI_1 and RI_2 of resource input (RI) dimension of Input factor of B.Ed. programme.

4.1.2.12   Statementwise Analysis of Data of Professional Input Dimension of Input Factor of Impact of B.Ed. Programme on Teacher Educators

The synthetic indexes for the three statements related to the Professional Input (PI) dimension of the impact of B.Ed. programme are 3.23, 3.08, and 3.23 (table 4.67) as mean values; which indicates that there is a positive impact of the three statements on teacher educators. The arrangement of mean values in descending order of their impact on teacher educators is as follows:

$$PI_1 \ (3.23) = PI_3 \ (3.23) > PI_2 \ (3.08)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the two statements i.e. PI_1 (Participate in different professional activities for the enhancement of professional capacities) and PI_3 (Give extra input for state/center level teacher eligibility test) has more impact on teacher educators as compared to the statement PI_2 (Work in a collaborative partnership with community and NGOs) as professional input (PI) dimension of Inputfactor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in the table 4.67 and tested against the following null hypothesis:

H$_o$: There is no significant difference in the impact of three statements of professional input dimension of Input factor of B.Ed. programme on teacher educators.

Table 4.67

Means Matrix Showing Significance of Difference in Means of Three Statements of Professional Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements ⟶			PI$_1$	PI$_3$	PI$_2$
	M ⟶		3.23	3.23	3.08
	SD ▾		.70	.66	.69
PI$_1$	3.23	r	-	**.32****	**.40****
	.70	t		1.80	**2.15***
PI$_3$	3.23	r		-	**.36****
	.66	t			**2.15***
PI$_2$	3.08	r			-
	.69	t			

** $\alpha = .01$

PI$_1$ (Participate in different professional activities for the enhancement of professional capacities); PI$_2$ (Work in a collaborative partnership with community and NGOs) and PI$_3$ (Give extra input for state/center level teacher eligibility test)

There are significant differences in the impact of the two comparisons between means of responses for the statements PI$_1$ and PI$_3$ over the statement PI$_2$, as the values of t $_{(119)}$ = 2.15 and 2.15 are significant at $\alpha = .05$; and there is a non-significant difference in the impact of comparison between means of responses for the statements PI$_1$ vs PI$_3$, as the value of t $_{(119)}$ = 1.80 is non-significant at $\alpha = .05$ (table 4.67). Therefore, the higher mean score of PI$_1$ (M$_{PI1}$ = 3.23) and PI$_3$ (M$_{PI3}$ = 3.23) indicates that PI$_1$ and PI$_3$ have significantly more impact on teacher educators as compared to PI$_2$ (M$_{PI2}$ = 3.08). On the other hand, the statements PI$_1$ vs PI$_3$ have no significant difference in the impact on teacher educators. Thus, H$_o$ stands not accepted for the two comparisons between means of responses to the statements PI$_1$ vs PI$_2$ and PI$_3$ vs PI$_2$ whereas H$_o$ stands accepted for a comparison between means of responses to the statements PI$_1$ vs PI$_3$ of professional input (PI) dimension of Input factor of B.Ed. programme.

Based on the percentages of teacher educators corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements

(Fig. 4.61), it is found that the maximum percentage of teacher educators opted the option agree (A) and strongly agree (SA) which results to the positive impact of the three statements of professional input (PI) dimension of Input factor of B.Ed. programme on teacher educators.
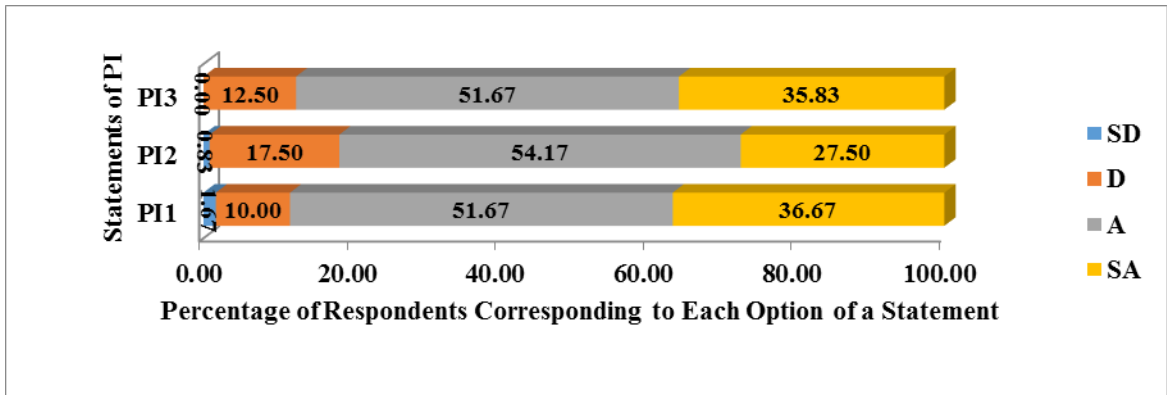
Figure 4.61: **Percentage of Responses of Teacher Educators Corresponding to Each Option of Professional Input Statements**

Table 4.68

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Three Statements of Professional Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Teacher Eductors

Statements ⟶			PI$_1$	PI$_2$	PI$_3$
↓	N_n ↓ $\%_n$ ↓	N_p ⟶ $\%_p$ ⟶	106 88.33	98 81.67	105 87.50
PI$_1$	14 11.67		**t =8.40****	-	-
PI$_2$	22 18.33		-	**t =6.94****	-
PI$_3$	15 12.50		-	-	**t =8.22****

N_p ($\%_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n ($\%_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01
PI$_1$ (Participate in different professional activities for the enhancement of professional capacities); PI$_2$ (Work in a collaborative partnership with community and NGOs) and PI$_3$ (Give extra input for state/center level teacher eligibility test)

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in the table 4.68 and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of three statements of professional input dimension of Input factor of B.Ed. programme on teacher educators.

There are significant differences between the percentage of teacher educators, who have a positive and negative impact, in all the three statements (i.e. PI_1, PI_2, and PI_3), as the values of t = 8.40, 6.94, and 8.22 are significant at α = .01 (table 4.68). Therefore, all three statements have a significantly more positive impact on teacher educators as compared to their negative impact. Thus, H_o stands not accepted for statements PI_1, PI_2, and PI_3 of professional input (PI) dimension of Input factor of B.Ed. programme.

4.1.2.13   Statementwise Analysis of Data of Evaluation Input Dimension of Input Factor of Impact of B.Ed. Programme on Teacher Educators

The synthetic indexes for the two statements related to the Evaluation Input (EI) dimension of the impact of B.Ed. programme are 2.88 and 3.14 (table 4.69) as mean values; which indicates that there is a positive impact of the two statements on teacher educators. The mean value of the ratings for statement EI_2 (3.14) is higher than the statement EI_1 (2.88).

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement EI_2 (Supervise and evaluate the academic work with the help of technology) has more impact on teacher educators as compared to the statement EI_1 (Use of rubrics for evaluation) as evaluation input (EI) dimension of Inputfactor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented below (table 4.69) and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of two statements of evaluation input dimension of Input factor of B.Ed. programme on teacher educators.

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There is a significant difference in the impact of comparison between means of responses for the statement EI_2 over the statement EI_1, as the value of t $_{(119)}$ = 4.36 is significant at α = .01 (table 4.69). Therefore, the higher mean score of EI_2 (M_{PI3} = 3.14) indicates that EI_2 has significantly more impact on teacher educators as compared to EI_1 (M_{EI1} = 2.88). Thus, H$_o$ stands not accepted for a comparison between means of responses to the statements EI_2 vs EI_1 of evaluation input (EI) dimension of Input factor of B.Ed. programme.

Table 4.69

Means Matrix Showing Significance of Difference in Means of Two Statements of Evaluation Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements———————————→			EI_2	EI_1
↓	M ——→		3.14	2.88
	SD↓		.70	.77
EI_2	3.14	r	-	.59 **
	.70	t		4.36 **
EI_1	2.88	r		-
	.77	t		

** α = .01

EI$_1$ (Use of rubrics for evaluation) and EI$_2$ (Supervise and evaluate the academic work with the help of technology)

Figure 4.62: Percentage of Responses of Teacher Educators Corresponding to Each Option of Evaluation Input Statements

Based on the percentages of teacher educators corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.62), it is found that the maximum percentage of teacher educators opted the option

agree (A) and strongly agree (SA) which results to the positive impact of the two statements of evaluation input (EI) dimension of Input factor of B.Ed. programmeon teacher educators.

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented below (table 4.70) and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of two statements of evaluation input dimension of Input factor of B.Ed. programme on teacher educators.

Table 4.70

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Two Statements of Evaluation Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements ⟶			EI_1	EI_2
↓	N_n ↓ $\%_n$ ↓	$\frac{N_p}{\%_p}$ ⟶	88 73.33	104 86.67
EI_1	32 26.67		t =5.11**	-
EI_2	16 13.33		-	t =8.03**

*N_p ($\%_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n ($\%_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** $\alpha = .01$*
EI_1 (Use of rubrics for evaluation) and EI_2 (Supervise and evaluate the academic work with the help of technology)

There are significant differences between the percentage of teacher educators, who have a positive and negative impact, in both the statements (i.e.EI_1 and EI_2), as the values of t = 5.11 and 8.03 are significant at $\alpha = .01$ (table 4.70). Therefore, both the statements have a significant positive impact on teacher educators as compared to their negative impact. Thus, H_o stands not accepted for the statements EI_1 and EI_2 of evaluation input (EI) dimension of Input factor of B.Ed. programme.

4.1.2.14   **Statementwise Analysis of Data of Pedagogical Process Dimension of Process Factor of Impact of B.Ed. Programme on Teacher Educators**

The synthetic indexes for the five statements related to the Pedagogical Process (PDP) dimension of the impact of B.Ed. programme is 3.36, 3.22, 3.27, 3.17, and 3.10 (table 4.71) as mean values; which indicates that there is a positive impact of the five statements on teacher educators. The arrangement of mean values in descending order of their impact on teacher educators is as follows:

PDP₁ (3.36) > PDP₃ (3.27) > PDP₂ (3.22) > PDP₄ (3.17) > PDP₅ (3.10)

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement PDP$_1$ (Use real-life experiences of both pupil teachers and teacher educators in the teaching-learning process) has more impact on teacher educators as compared to the other four statements i.e. PDP$_3$ (Use an appropriate blend of resources in the teaching-learning process); PDP$_2$ (Conduct case studies/projects as strategies to sensitize about the community); PDP$_4$ (Allocate different academic tasks as per the level of pupil teachers); and PDP$_5$ (Use different learning resource centers for developing subject-specific competencies) as pedagogical process (PDP) dimension of Processfactor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.71 and tested against the following null hypothesis:

H$_o$:   There is no significant difference in the impact of five statements of pedagogical process dimension of Process factor of B.Ed. programme on teacher educators.

There are significant differences in the impact of the four comparisons between means of responses for the statement PDP$_1$ over the statements PDP$_2$, PDP$_4$and PDP$_5$, as the values of t $_{(119)}$ = 1.96, 2.52 and 3.31 are significant at α = .05 and .01; for the statement PDP$_3$ over the statement PDP$_5$, as the value of t $_{(119)}$ = 2.60 is significant at α = .01; and there are non-significant differences in the impact of the six comparisons between means of responses for the statements PDP$_1$ vs PDP$_3$; PDP$_3$ vs PDP$_2$ and PDP$_3$ vs PDP$_4$; PDP$_2$ vs

PDP$_4$ and PDP$_2$ vs PDP$_5$; and PDP$_4$ vs PDP$_5$, as the values of t $_{(119)}$ = 1.35, .88, 1.68, .83, 1.93 and .96 are non-significant at α = .05 (table 4.71).

Table 4.71

Means Matrix Showing Significance of Difference in Means of Five Statements of Pedagogical Process Dimension of Process Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements→			PDP$_1$	PDP$_3$	PDP$_2$	PDP$_4$	PDP$_5$
	M →		3.36	3.27	3.22	3.17	3.10
	SD ▼		.73	.56	.62	.64	.61
PDP$_1$	3.36	**r**	-	**.36****	**.33****	**.27****	**.20***
	.73	**t**		1.35	**1.96***	**2.52***	**3.31****
PDP$_3$	3.27	**r**		-	**.46****	**.41****	**.29****
	.56	**t**			.88	1.68	**2.60****
PDP$_2$	3.22	**r**			-	**.46****	**.43****
	.62	**t**				.83	1.93
PDP$_4$	3.17	**r**				-	**.26****
	.64	**t**					.96
PDP$_5$	3.10	**r**					-
	.61	**t**					

**α = .01 and *α = .05

PDP$_1$ (Use real-life experiences of both pupil teachers and teacher educators in the teaching-learning process); PDP$_2$ (Conduct case studies/projects as strategies to sensitize about the community); PDP$_3$ (Use an appropriate blend of resources in the teaching-learning process); PDP$_4$ (Allocate different academic tasks as per the level of pupil teachers); and PDP$_5$ (Use different learning resource centers for developing subject-specific competencies)

Therefore, the statement PDP$_1$ (M$_{PDP1}$ = 3.36) has significantly moreimpact on teacher educators as compared to the statements PDP$_2$ (M$_{PDP2}$ = 3.22), PDP$_4$ (M$_{PDP4}$ = 3.17) and PDP$_5$ (M$_{PDP5}$ = 3.10); and the statement PDP$_3$ (M$_{PDP2}$ = 3.27) has significantly moreimpact on teacher educators as compared to the statements PDP$_5$ (M$_{PDP5}$ = 3.10). On the other hand, the statements statements PDP$_1$ vs PDP$_3$; PDP$_3$ vs PDP$_2$; PDP$_3$ vs PDP$_4$; PDP$_2$ vs PDP$_4$; PDP$_2$ vs PDP$_5$; and PDP$_4$ vs PDP$_5$ have no significant difference in the impact on teacher educators. Thus, H$_o$ stands not accepted for four comparisons between means of responses to the statements PDP$_1$ vs PDP$_2$; PDP$_1$ vsPDP$_4$; PDP$_1$ vs PDP$_5$; and PDP$_3$ vs PDP$_5$ whereas H$_o$ stands accepted for six comparisons between means of

responses to the statements PDP_1 vs PDP_3; PDP_3 vs PDP_2; PDP_3 vs PDP_4; PDP_2 vs PDP_4; PDP_2 vs PDP_5; and PDP_4 vs PDP_5 of pedagogical process (PDP) dimension of Process factor of B.Ed. programme.

Based on the percentages of teacher educators corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.63), it is found that the maximum percentage of teacher educators opted the option agree (A) and strongly agree (SA) which results to the positive impact of the five statements of the pedagogical process (PDP) dimension of Process factor of B.Ed. programme on teacher educators.
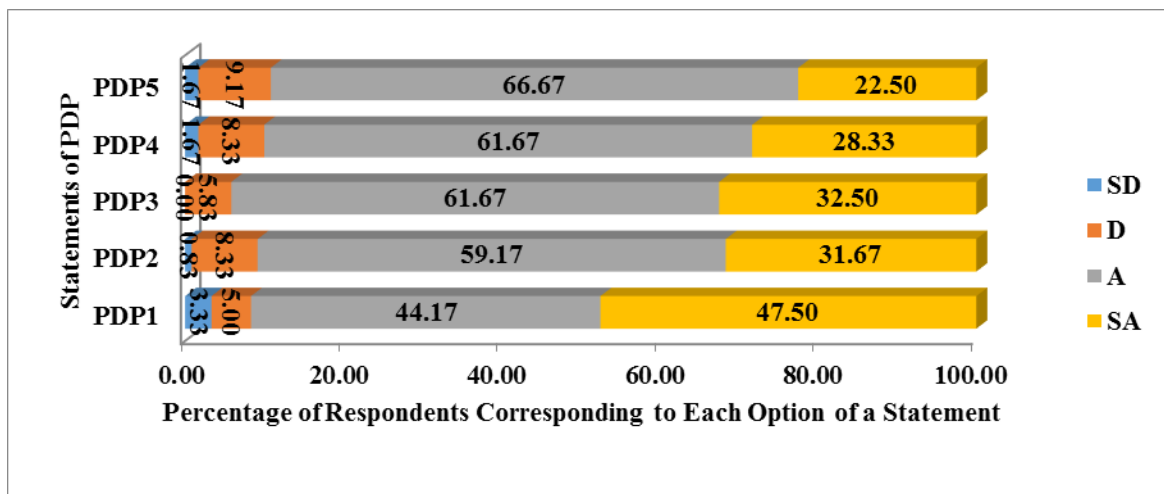
Figure 4.63: Percentage of Responses of Teacher Educators Corresponding to Each Option of Pedagogical Process Statements

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in table 4.72 and tested against the following null hypothesis:

H_o: There exists no significant difference in the positive and negative impact of five statements of pedagogical process dimension of Process factor of B.Ed. programme on teacher educators.

Table 4.72

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Five Statements of Pedagogical Process Dimension of Process Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements →			PDP_1	PDP_2	PDP_3	PDP_4	PDP_5
↓	N_n ↓	N_p →	110	109	113	108	107
	$\%_n$ ↓	$\%_p$ →	91.67	90.83	94.17	90.00	89.17
PDP_1	10 8.33		$t =9.13^{**}$	-	-	-	-
PDP_2	11 9.17		-	$t =8.95^{**}$	-	-	-
PDP_3	7 5.83		-	-	$t =9.68^{**}$	-	-
PDP_4	12 10.00		-	-	-	$t =8.76^{**}$	-
PDP_5	13 10.83		-	-	-	-	$t =8.58^{**}$

N_p ($\%_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n ($\%_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and $^{**} \alpha = .01$
PDP_1 (Use real-life experiences of both pupil teachers and teacher educators in the teaching-learning process); PDP_2 (Conduct case studies/projects as strategies to sensitize about the community); PDP_3 (Use an appropriate blend of resources in the teaching-learning process); PDP_4 (Allocate different academic tasks as per the level of pupil teachers); and PDP_5 (Use different learning resource centers for developing subject-specific competencies)

There are significant differences between the percentage of teacher educators, who have a positive and negative impact, in all the five statements (i.e. PDP_1, PDP_2, PDP_3, PDP_4, and PDP_5), as the values of t = 9.13, 8.95, 9.68, 8.76, and 8.58 are significant at $\alpha = .01$ (table 4.72). Therefore, all five statements have a significantly more positive impact on teacher educators as compared to their negative impact. Thus, H_o stands not accepted for statements PDP_1, PDP_2, PDP_3, PDP_4, and PDP_5 of the pedagogical process (PDP) dimension of Process factor of B.Ed. programme.

4.1.2.15   Statementwise Analysis of Data of Evaluation Process Dimension of Process Factor of Impact of B.Ed. Programme on Teacher Educators

The synthetic indexes for the three statements related to the Evaluation Process (EP) dimension of the impact of B.Ed. programme are 3.07, 3.33, and 3.22 (table 4.73) as

mean values; which indicates that there is a positive impact of the three statements on teacher educators. The arrangement of mean values in descending order of their impact on teacher educators is as follows:

$$EP_2\ (3.33) > EP_3\ (3.22) > EP_1\ (3.07)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement EP_2 (Apply various formative assessment strategies in evaluation) has more impact on teacher educators as compared to the other two statements i.e. EP_3 (Practice remedial measures as per need of the students) and EP_1 (Discuss detailed evaluation criteria at the beginning of the lesson) as evaluation process (EP) dimension of Processfactor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented below (table 4.73) and tested against the following null hypothesis:

H_o: There exists no significant difference in the impact of three statements of evaluation process dimension of Process factor of B.Ed. programme on teacher educators.

Table 4.73

Means Matrix Showing Significance of Difference in Means of Three Statements of Evaluation Process Dimension of Process Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements ⟶			EP_2	EP_3	EP_1
	M ⟶ SD ↓		3.33 .58	3.22 .64	3.07 .76
EP_2	3.33 .58	r t	-	.31** 1.65	.35** 3.61**
EP_3	3.22 .64	r t		-	.28** 1.94
EP_1	3.07 .76	r t			-

** $\alpha = .01$

EP_1 (Discuss detailed evaluation criteria at the beginning of the lesson); EP_2 (Apply various formative assessment strategies in evaluation); and EP_3 (Practice remedial measures as per need of the students)

There is a significant difference in the impact of comparison between means of responses for the statement EP_2 over the statement and EP_1, as the value of t $_{(119)}$ = 3.61 is significant at α = .01; and there are non-significant differences in the impact of the two comparisons between means of responses for the statements EP_2 vs EP_3 andEP_3 vs EP_1, as the values of t $_{(119)}$ = 1.65 and 1.94 is non-significant at α = .05 (table 4.73). Therefore, the higher mean score of EP_2 (M_{EP2} = 3.33) indicates that EP_2 has significantly more impact on teacher educators as compared to EP_1 (M_{EP2} = 3.07). On the other hand, the statements EP_2 vs EP_3 and EP_3 vs EP_1 have no significant difference in the impact on teacher educators. Thus, H_o stands not accepted for a comparison between means of responses to the statements EP_2 vs EP_1 whereas H_o stands accepted for the two comparisons between means of responses to the statements EP_2 vs EP_3 andEP_3 vs EP_1 of evaluation process (EP) dimension of Process factor of B.Ed. programme.

Based on the percentages of teacher educators corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.64), it is found that the maximum percentage of teacher educators opted the option agree (A) and strongly agree (SA) which results to the positive impact of the three statements of the evaluation process (EP) dimension of Process factor of B.Ed. programme on teacher educators.
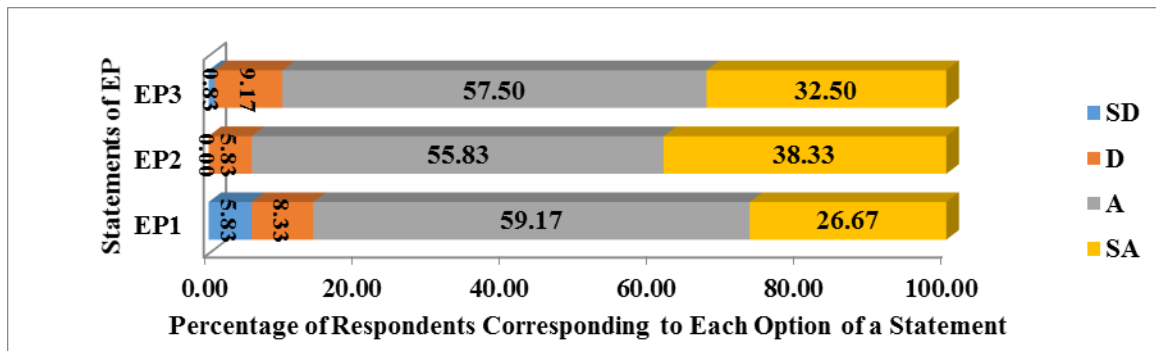
Figure 4.64: **Percentage of Responses of Teacher Educators Corresponding to Each Option of Evaluation ProcessStatements**

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in table 4.74 and tested against the following null hypothesis:

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H_o: There is no significant difference in the positive and negative impact of three statements of evaluation process dimension of Input factor of B.Ed. programme on teacher educators.

Table 4.74

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Three Statements of Evaluation Process Dimension of Process Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements →			EP_1	EP_2	EP_3
↓	N_n ↓ $\%_n$ ↓	N_p → $\%_p$	103 85.83	113 94.17	108 90.00
EP_1	17 14.17		$t = 7.85^{**}$	-	-
EP_2	7 5.83		-	$t = 9.68^{**}$	-
EP_3	12 10.00		-	-	$t = 8.76^{**}$

N_p ($\%_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n ($\%_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01
EP_1 (Discuss detailed evaluation criteria at the beginning of the lesson); EP_2 (Apply various formative assessment strategies in evaluation); and EP_3 (Practice remedial measures as per need of the students)

There are significant differences between the percentage of teacher educators, who have a positive and negative impact, in all the three statements (i.e. EP_1, EP_2, and EP_3), as the values of t = 7.85, 9.68, and 8.76 are significant at α = .01 (table 4.74). Therefore, all three statements have a significantly more positive impact on teacher educators as compared to their negative impact. Thus, H_o stands not accepted for the statements EP_1, EP_2, and EP_3 of the evaluation process (EP) dimension of Process factor of B.Ed. programme.

4.1.2.16 Statementwise Analysis of Data of Professional Process Dimension of Process Factor of Impact of B.Ed. Programme on Teacher Educators

The synthetic indexes for the five statements related to the Professional Process (PP) dimension of the impact of B.Ed. programme are 3.01, 3.28, 3.28, 3.31, and 3.12 (table 4.75) as mean values; which indicates that there is a positive impact of the five statements

on teacher educators. The arrangement of mean values in descending order of their impact on teacher educators is as follows:

$$PP_4\ (3.31) > PP_2\ (3.28) = PP_3\ (3.28) > PP_5\ (3.12) > PP_1\ (3.01)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement PP_4 (Organize workshops/seminars for the professional enhancement of pupil teachers) has more impact on teacher educators as compared to the other four statements i.e. PP_2 (Give constructive feedback in simulated teaching practice); PP_3 (Evaluate classroom lesson delivery of pupil teachers in teaching practice daily); PP_5 (Organize practice sessions for the preparation of Teacher Eligibility Test); and PP_1 (Use rubrics to assess various parameters of teaching internship) as professional process (PP) dimension of Processfactor of B.Ed. programme.

Table 4.75

Means Matrix Showing Significance of Difference in Means of Five Statements of Professional Process Dimension of Process Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements➞			PP_4	PP_2	PP_3	PP_5	PP_1
	M ➞		3.31	3.28	3.28	3.12	3.01
	SD ▼		.62	.62	.70	.66	.70
PP_4	3.31 .62	**r** **t**	-	**.41**** .54	**.34**** .36	**.46**** **3.16****	**.23*** **3.98****
PP_2	3.28 .62	**r** **t**		-	**.52**** .14	**.47**** **2.62****	**.46**** **4.20****
PP_3	3.28 .70	**r** **t**			-	**.29**** **2.25***	**.23**** **3.47****
PP_5	3.12 .66	**r** **t**				-	**.52**** 1.38
PP_1	3.01 .70	**r** **t**					-

$^{**} \alpha = .01\ and\ ^{*}\alpha = .05$

PP₁ (Use rubrics to assess various parameters of teaching internship); PP₂ (Give constructive feedback in simulated teaching practice); PP₃ (Evaluate classroom lesson delivery of pupil teachers in teaching practice daily); PP₄ (Organize workshops/seminars for the professional enhancement of pupil teachers); and PP₅ (Organize practice sessions for the preparation of Teacher Eligibility Test)

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.75 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of five statements of professional process dimension of Process factor of B.Ed. programme on teacher educators.

There are significant differences in the impact of the six comparisons between means of responses for the statement PP_4 over the statements PP_5 and PP_1, as the values of $t_{(119)} = 3.16$ and 3.98 are significant at $\alpha = .01$; for the statement PP_2 over the statements PP_5 and PP_1, as the values of $t_{(119)} = 2.62$ and 4.20 are significant at $\alpha = .01$; for the statement PP_3 over the statements PP_5 and PP_1, as the values of $t_{(119)} = 2.25$ and 3.47 are significant at $\alpha = .01$; and there is a non-significant difference in the impact of the four comparisons between means of responses for the statements PP_4 vs PP_2; PP_4 vs PP_3; PP_2 vs PP_3; and PP_5 vs PP_1, as the values of $t_{(119)} = .54, .14$ and 1.38 are non-significant at $\alpha = .05$ (table 4.75). Therefore, the statement PP_4 ($M_{PP4} = 3.31$) has significantly more impact on teacher educators as compared to the statements PP_5 ($M_{PP5} = 3.12$) and PP_1 ($M_{PP1} = 3.01$); the statement PP_2 ($M_{PP2} = 3.28$) has significantly more impact on teacher educators as compared to the statements PP_5 ($M_{PP5} = 3.12$) and PP_1 ($M_{PP1} = 3.01$); and the statement PP_3 ($M_{PP3} = 3.28$) has significantly more impact on teacher educators as compared to the statements PP_5 ($M_{PP5} = 3.12$) and PP_1 ($M_{PP1} = 3.01$). On the other hand, the statements PP_4 vs PP_2; PP_4 vs PP_3; PP_2 vs PP_3; and PP_5 vs PP_1 have no significant difference in the impact on teacher educators. Thus, H_o stands not accepted for the six comparisons between means of responses to the statements PP_4 vs PP_5 and PP_4 vs PP_1; PP_2 vs PP_5 and PP_2 vs PP_1; and PP_3 vs PP_5 and PP_3 vs PP_1 whereas H_o stands accepted for the four comparisons between means of responses to the statements PP_4 vs PP_2; PP_4 vs PP_3; PP_2 vs PP_3; and PP_5 vs PP_1 of the professional process (PP) dimension of Process factor of B.Ed. programme.

Based on the percentages of teacher educators corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements

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(Fig. 4.65), it is found that the maximum percentage of teacher educators opted the option agree (A) and strongly agree (SA) which results to the positive impact of the five statements of the professional process (PP) dimension of Process factor of B.Ed. programme on teacher educators.
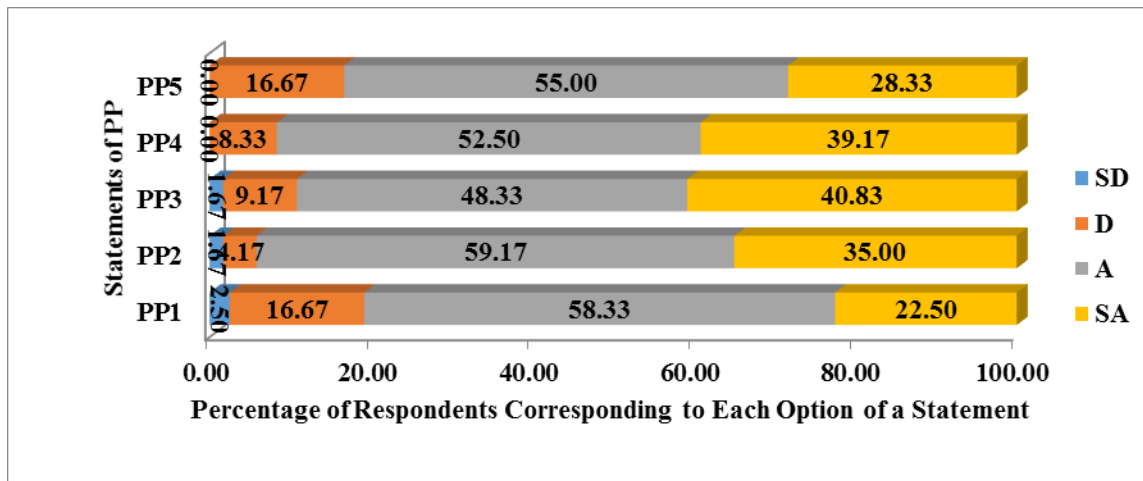
Figure 4.65: Percentage of Responses of Teacher Educators Corresponding to Each Option of Professional Process Statements

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in table 4.76 and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of five statements of professional process dimension of Process factor of B.Ed. programme on teacher educators.

There are significant differences between the percentage of teacher educators, who have a positive and negative impact, in all the five statements (i.e. PP_1, PP_2, PP_3, PP_4, and PP_5), as the values of t = 6.76, 9.68, 8.58, 9.13, and 7.30 are significant at α = .01 (table 4.76).

Table 4.76

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Five Statements of Professional Process Dimension of Process Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements →			PP_1	PP_2	PP_3	PP_4	PP_5
↓	N_n ↓ $\%_n$ ↓	N_p → $\%_p$ →	97 80.83	113 94.17	107 89.17	110 91.67	100 83.33
PP_1	23 19.17		$t = 6.76^{**}$	-	-	-	-
PP_2	7 5.83		-	$t = 9.68^{**}$	-	-	-
PP_3	13 10.83		-	-	$t = 8.58^{**}$	-	-
PP_4	10 8.33		-	-	-	$t = 9.13^{**}$	-
PP_5	20 16.67		-	-	-	-	$t = 7.30^{**}$

N_p (%$_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n (%$_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01
PP_1 (Use rubrics to assess various parameters of teaching internship); PP_2 (Give constructive feedback in simulated teaching practice); PP_3 (Evaluate classroom lesson delivery of pupil teachers in teaching practice daily); PP_4 (Organize workshops/seminars for the professional enhancement of pupil teachers); and PP_5 (Organize practice sessions for the preparation of Teacher Eligibility Test)

Therefore, all five statements have a significantly more positive impact on teacher educators as compared to their negative impact. Thus, H_o stands not accepted for the statements PP_1, PP_2, PP_3, PP_4, and PP_5 of the professional process (PP) dimension of Process factor of B.Ed. programme.

4.1.2.17   Statementwise Analysis of Data of Training Process Dimension of Process Factor of Impact of B.Ed. Programme on Teacher Educators

The synthetic indexes (for the three statements related to the Training Process (TP) dimension of the impact of the B.Ed. programme) are 3.13, 3.05, and 2.92 (table 4.77) as mean values; which indicates that there is a positive impact of the three statements on teacher educators. The arrangement of mean values in descending order of their impact on teacher educators is as follows:

TP$_1$ (3.13) > TP$_2$ (3.05) > TP$_3$ (2.92)

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement TP_1 (Work as a facilitator in field attachment) has more impact on teacher educators as compared to the other two statements i.e. TP_2 (Organize service-learning activities as per needs of the society) and TP_3 (Organize community projects in collaboration with NGOs) as training process (TP) dimension of Process factor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented below (table 4.77) and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of three statements of training process dimension of Process factor of B.Ed. programme on teacher educators.

Table 4.77

Means Matrix Showing Significance of Difference in Means of Three Statements of the Training Process Dimension of the Process Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements ⟶			TP_1	TP_2	TP_3
↓	**M** ⟶		3.13	3.05	2.92
	SD ↓		.59	.65	.68
TP_1	3.13	r	-	$.38^{**}$	$.30^{**}$
	.59	t		1.32	3.13^{**}
TP_2	3.05	r		-	$.49^{**}$
	.65	t			2.17^{*}
TP_3	2.92	r			-
	.68	t			

$^{**}\alpha = .01$ and $^{*}\alpha = .05$

TP_1 (Work as a facilitator in field attachment); TP_2 (Organize service-learning activities as per needs of the society); and TP_3 (Organize community projects in collaboration with NGOs)

There are significant differences in the impact of the two comparisons between means of responses for the statements TP_1 and TP_2 over the statement TP_3, as the values of $t_{(119)}$ = 3.13 and 2.17 are significant at α = .01 and .05; and there is a non-significant difference in the impact of comparison between means of responses for the statements TP_1 vs TP_2, as the value of $t_{(119)}$ = 1.32 is non-significant at α = .05 (table 4.77). Therefore, the higher

mean score of TP_1 ($M_{TP1} = 3.13$) and TP_2 ($M_{TP2} = 3.05$) indicates that TP_1 and TP_2 have significantly more impact on teacher educators as compared to TP_3 ($M_{TP3} = 2.92$). On the other hand, the statements TP_1 vs TP_2 have no significant difference in the impact on teacher educators. Thus, H_o stands not accepted for the two comparisons between means of responses to the statements TP_1 vs TP_3 and TP_2 vs TP_3 whereas H_o stands accepted for a comparison between means of responses to the statements TP_1 vs TP_2 of the training process (TP) dimension of Process factor of B.Ed. programme.
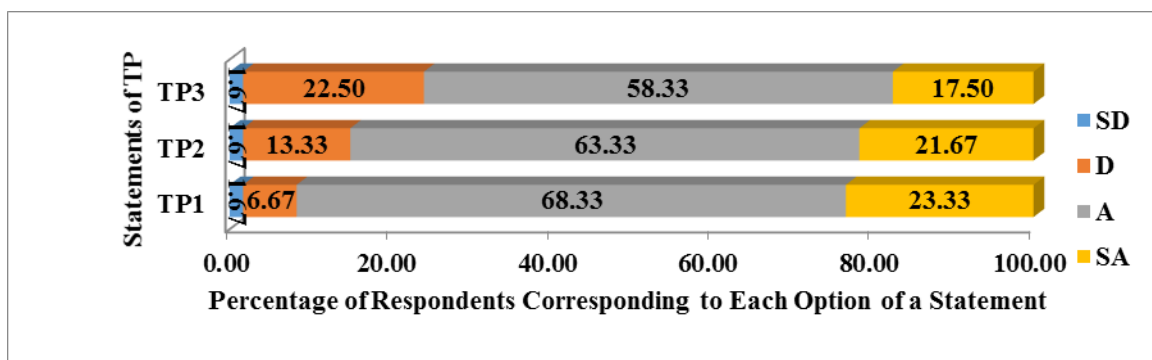
Figure 4.66: Percentage of Responses of Teacher Educators Corresponding to Each Option of Training Process Statements

Based on the percentages of teacher educators corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.66), it is found that the maximum percentage of teacher educators opted to agree (A) and strongly agree (SA) which results to the positive impact of the three statements of the training process (TP) dimension of Process factor of B.Ed. programme on teacher educators.

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented above (table 4.78) and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of three statements of training process dimension of Process factor of B.Ed. programme on teacher educators.

Table 4.78

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Three Statements of Training Process Dimension of Process Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements ⟶			TP_1	TP_2	TP_3
↓	N_n ↓ $\%_n$ ↓	N_p ⟶ $\%_p$	110 91.67	102 85.00	91 75.83
TP_1	10 8.33		t =9.13**	-	-
TP_2	18 15.00		-	t =7.67**	-
TP_3	29 24.17		-	-	t =5.66**

*N_p (%$_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n (%$_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01*
TP_1 (Work as a facilitator in field attachment); TP_2 (Organize service-learning activities as per needs of the society); and TP_3 (Organize community projects in collaboration with NGOs)

There are significant differences between the percentage of teacher educators, who have a positive and negative impact, in all the three statements (i.e. TP_1, TP_2, and TP_3), as the values of t = 9.13, 7.67, and 5.66 are significant at α = .01 (table 4.78). Therefore, all three statements have a significantly more positive impact on teacher educators as compared to their negative impact. Thus, H_o stands not accepted for the statements TP_1, TP_2, and TP_3 of the training process (TP) dimension of Process factor of B.Ed. programme.

4.1.2.18   Statementwise Analysis of Data of Academic & Non-Academic Responsibilities Product Dimension of Product Factor of Impact of B.Ed. Programme on Teacher Educators

The synthetic indexes for the five statements related to Academic & Non-Academic Responsibilities Product (ANARPr) dimension of the impact of B.Ed. programme are 2.27, 3.31, 2.98, 3.22, 3.14, and 3.08 (table 4.79) as mean values; which indicates that there is a positive impact of the five statements on teacher educators. The arrangement of mean values in descending order of their impact on teacher educators is as follows:

ANARPr₂ (3.31) > ANARPr₄ (3.22) > ANARPr₅ (3.14) > ANARPr₆ (3.08) > ANARPr₃ (2.98) > ANARPr₁ (2.27)

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement ANARPr$_2$ (Academic responsibilities have increased)has more impact on teacher educators as compared to the other five statements i.e. ANARPr$_4$ (Non-academic responsibilities have increased); ANARPr$_5$ (Pedagogical competencies have improved); ANARPr$_6$ (Develop competencies to design field-based assignments/projects); ANARPr$_3$ (Academic collaboration with colleagues and experts has enhanced); and ANARPr$_1$ (Workload has reduced) as academic & non-academic responsibilities product (ANARPr) dimension of Product factor of B.Ed. programme. The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.79 and tested against the following null hypothesis:

H$_o$:   There is no significant difference in the impact of six statements of academic & non-academic responsibilities product dimension of Product factor of B.Ed. programme on teacher educators.

There are significant differences in the impact of the ten comparisons between means of responses for the statement ANARPr$_2$ over the statements ANARPr$_5$, ANARPr$_6$, ANARPr$_3$, and ANARPr$_1$, as the values of t $_{(119)}$ = 2.31, 3.09, 5.11, and 9.21 are significant at α = .05 and .01; for the statement ANARPr$_4$ and ANARPr$_5$over the statements ANARPr$_3$ and ANARPr$_1$, as the values of t $_{(119)}$ = 3.23 and 8.42; 2.44 and 9.42 are significant at α = .05 and .01; for the statement, ANARPr$_6$ and ANARPr$_3$ over the statements ANARPr$_1$, as the values of t $_{(119)}$ = 8.33 and 6.89 are significant at.01; and there is a non-significant difference in the impact of the five comparisons between means of responses for the statements ANARPr$_2$ vs ANARPr$_4$; ANARPr$_4$ vs ANARPr$_5$; ANARPr$_4$ vs ANARPr$_6$; ANARPr$_5$ vs ANARPr$_6$; and ANARPr$_6$ vs ANARPr$_3$, as the values of t $_{(119)}$ = 1.31, 1.01, 1.86, 1.21 and 1.48 are non-significant at α = .05 (table 4.79). Therefore, the statement ANARPr$_2$ (M$_{ANARPr2}$ = 3.31) has significantly more impact on teacher educators as compared to ANARPr$_5$ (M $_{ANARPr5}$ = 3.14),

Table 4.79

Means Matrix Showing Significance of Difference in Means of Six Statements of Academic & Non-Academic Responsibilities Product Dimension of Product Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements →	M / SD	r / t	ANARPr$_2$	ANARPr$_4$	ANARPr$_5$	ANARPr$_6$	ANARPr$_3$	ANARPr$_1$
↓	**M** **SD**		3.31 .67	3.22 .70	3.14 .63	3.08 .64	2.98 .66	2.27 .98
ANARPr$_2$	3.31 .67	**r** **t**	-	**.36**** 1.31	**.24**** **2.31***	**.19*** **3.09****	**.42**** **5.11****	- .12 **9.21****
ANARPr$_4$	3.22 .70	**r** **t**		-	**.26**** 1.01	**.23**** 1.86	**.28**** **3.23****	- .06 **8.42****
ANARPr$_5$	3.14 .63	**r** **t**			-	**.27**** 1.21	**.33**** **2.44***	**.25**** **9.42****
ANARPr$_6$	3.08 .64	**r** **t**				-	**.36**** 1.48	**.18**** **8.33****
ANARPr$_3$	2.98 .66	**r** **t**					-	.10 **6.89****
ANARPr$_1$	2.27 .98	**r** **t**						-

** α = .01 and *α = .05

ANARPr$_1$ (Workload has reduced); ANARPr$_2$ (Academic responsibilities have increased); ANARPr$_3$ (Academic collaboration with colleagues and experts has enhanced); ANARPr$_4$ (Non-academic responsibilities have increased); ANARPr$_5$ (Pedagogical competencies have improved); and ANARPr$_6$ (Develop competencies to design field-based assignments/projects)

ANARPr6 (M $_{ANARPr6}$ = 3.08), ANARPr3 (M $_{ANARPr3}$ = 2.98) and ANARPr1 (M $_{ANARPr1}$ = 2.27); the statements ANARPr4 (M$_{ANARPr4}$ = 3.22) and ANARPr5(M $_{ANARPr5}$ = 3.14) have significantly more impact on teacher educators as compared to ANARPr3 (M $_{ANARPr3}$ = 2.98) and ANARPr1 (M $_{ANARPr1}$ = 2.27); and the statement ANARPr3 (M $_{ANARPr3}$ = 2.98) has significantly more impact on teacher educators as compared to ANARPr1 (M $_{ANARPr1}$ = 2.27). On the other hand, the statements ANARPr2 vs ANARPr4; ANARPr4 vs ANARPr5 and ANARPr4 vs ANARPr6; ANARPr5 vs ANARPr6; and ANARPr6 vs ANARPr3 of dimension ANARPr have no significant difference in the impact on teacher educators. Thus, H$_o$ stands not accepted for the ten comparisons between means of responses to the statements ANARPr2 vs ANARPr5, ANARPr2 vs ANARPr6, ANARPr2 vs ANARPr3; ANARPr2 vs ANARPr1; ANARPr4 vs ANARPr3; ANARPr4 vs ANARPr1; ANARPr5 vs ANARPr3; ANARPr5 vs ANARPr1; ANARPr6 vs ANARPr1; and ANARPr3 vs ANARPr1 whereas H$_o$ stands accepted for the five comparisons between means of responses to the statements ANARPr2 vs ANARPr4; ANARPr4 vs ANARPr5; ANARPr4 vs ANARPr6; ANARPr5 vs ANARPr6; and ANARPr6 vs ANARPr3 of academic & non-academic responsibilities product (ANARPr) dimension of Product factor of B.Ed. programme.
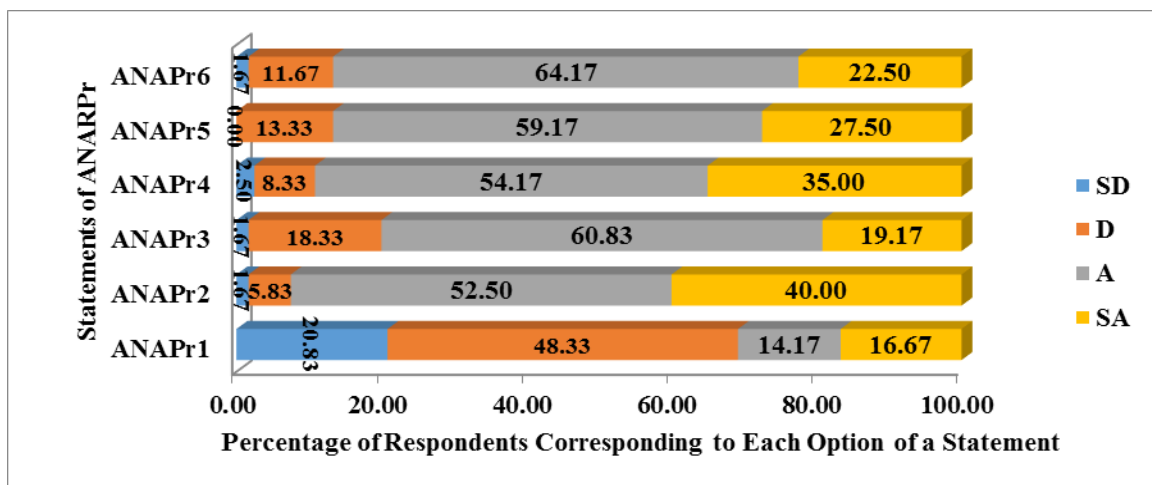
Figure 4.67: **Percentage of Responses of Teacher Educators Corresponding to Each Option of Academic and Non-Academic Responsibilities Statements**

Based on the percentages of teacher educators corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.67), it is found that the maximum percentage of teacher educators opted the option agree (A) and strongly agree (SA) which results to the positive impact of the six statements of academic & non-academic responsibilities product (ANARPr) dimension of Product factor of B.Ed. programme on teacher educators.

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in table 4.80 and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of six statements of academic & non-academic responsibilities product dimension of Product factor of B.Ed. programme on teacher educators.

There are significant differences between the percentage of teacher educators, who have a positive and negative impact, in all the six statements (i.e. $ANARPr_1$, $ANARPr_2$ $ANARPr_3$, $ANARPr_4$, and $ANARPr_5$), as the values of t = 4.20, 9.31, 6.57, 8.58, 8.03 and 8.03 are significant at α = .01 (table 4.80). Therefore, all six statements have a significantly more positive impact on teacher educators as compared to their negative impact. Thus, H_o stands not accepted for statements $ANARPr_1$, $ANARPr_2$ $ANARPr_3$, $ANARPr_4$, and $ANARPr_5$) of academic & non-academic responsibilities product (ANARPr) dimension of Product factor of B.Ed. programme.

Table 4.80

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Six Statements of Academic & Non-Academic Responsibilities Product Dimension of Product Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements ➝			$ANARPr_2$	$ANARPr_4$	$ANARPr_5$	$ANARPr_6$	$ANARPr_3$	$ANARPr_1$
	N_n ↓ $\%_n$ ↓	N_p ➝ $\%_p$ ➝	37 30.83	111 92.50	96 80.00	107 89.17	104 86.67	104 86.67
$ANARPr_1$	83 69.17		$t = 4.20^{**}$	-	-	-	-	-
$ANARPr_2$	9 7.50		-	$t = 9.31^{**}$	-	-	-	-
$ANARPr_3$	24 20.00		-	-	$t = 6.57^{**}$	-	-	-
$ANARPr_4$	13 10.83		-	-	-	$t = 8.58^{**}$	-	-
$ANARPr_5$	16 13.33		-	-	-	-	$t = 8.03^{**}$	-
$ANARPr_6$	16 13.33		-	-	-	-	-	$t = 8.03^{**}$

N_p ($\%_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n ($\%_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and $^{**}\alpha = .01$

$ANARPr_1$ (Workload has reduced); $ANARPr_2$ (Academic responsibilities have increased); $ANARPr_3$ (Academic collaboration with colleagues and experts has enhanced); $ANARPr_4$ (Non-academic responsibilities have increased); $ANARPr_5$ (Pedagogical competencies have improved); and $ANARPr_6$ (Develop competencies to design field-based assignments/projects)

4.1.2.19   Statementwise Analysis of Data of Resource Consultation Product Dimension of Product Factor of Impact of B.Ed. Programme on Teacher Educators

The synthetic indexes for the three statements related to the Resource Consultation Product (RCPr) dimension of the impact of B.Ed. programme are 3.15, 3.13, and 3.14 (table 4.81) as mean values; which indicates that there is a positive impact of the three statements on teacher educators. The arrangement of mean values in descending order of their impact on teacher educators is as follows:

$$RCPr_1 (3.15) > RCPr_3 (3.14) > RCPr_2 (3.13)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the all the three statements $RCPr_1$ (Consult more online resources to prepare instructional inputs); $RCPr_3$ (Consult more library resources to prepare instructional inputs); and $RCPr_2$ (Develop competencies in using online resources in the teaching-learning process) have almost equal impact on teacher educators as resource consultation product (RCPr) dimension of Product factor of B.Ed. programme.

Table 4.81

Means Matrix Showing Significance of Difference in Means of Three Statements of Resource Consultation Product Dimension of Product Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements ⟶			$RCPr_1$	$RCPr_3$	$RCPr_2$
⟱	M ⟶ SD ⟱		3.15 .67	3.14 .66	3.13 .61
$RCPr_1$	3.15 .67	r t	-	**.27**** .11	**.63**** .33
$RCPr_3$	3.14 .66	r t		-	**.56**** .15
$RCPr_2$	3.13 .61	r t			-

** α = .01

RCPr₁ (Consult more online resources to prepare instructional inputs); RCPr₂ (Develop competencies in using online resources in the teaching-learning process); and RCPr₃ (Consult more library resources to prepare instructional inputs)

The significance of the difference between these means have been compared and shown in the means matrix presented in the table 4.81 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of three statements of resource consultation product dimension of Product factor of B.Ed. programme on teacher educators.

There are non-significant differences in the positive impact of the three comparisons between means of responses for the statement $RCPr_1$ over the statements $RCPr_3$ and $RCPr_2$, as the values of t $_{(119)}$ = .11, and .33 are non-significant at α = .05; and for the statement $RCPr_3$ over the statement $RCPr_2$, as the value of t $_{(119)}$ = .15 is non-significant at α = .05 (table 4.81). Therefore, the statements $RCPr_1$ vs $RCPr_3$; $RCPr_1$ vs $RCPr_2$; and $RCPr_3$ vs $RCPr_2$ have no significant difference in the impact on teacher educators. Thus, H_o stands accepted for the three comparisons between means of responses to the statements $RCPr_1$ vs $RCPr_3$; $RCPr_1$ vs $RCPr_2$; and $RCPr_3$ vs $RCPr_2$ of resource consultation product (RCPr) dimension of Product factor of B.Ed. programme.
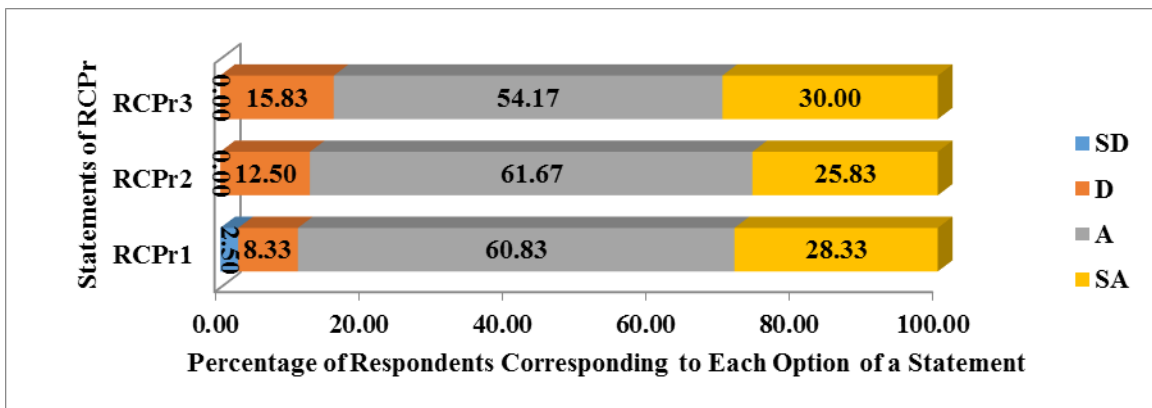
Figure 4.68:   Percentage of Responses of Teacher Educators Corresponding to Each Option of Resource Consultation Statements

Based on the percentages of teacher educators corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.68), it is found that the maximum percentage of teacher educators opted the option

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agree (A) and strongly agree (SA) which results to the positive impact of the three statements of resource consultation product (RCPr) dimension of Productfactor of B.Ed. programme on teacher educators.

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in table 4.82 and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of three statements of resource consultation product dimension of Product factor of B.Ed. programme on teacher educators.

Table 4.82

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Three Statements of Resource Consultation Product Dimension of Product Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements ⟶			$RCPr_1$	$RCPr_2$	$RCPr_3$
↓	N_n ↓ $\%_n$↓	N_p→ $\%_p$→	107 89.17	105 87.50	101 84.17
$RCPr_1$	13 10.83		$t = 8.58^{**}$	-	-
$RCPr_2$	15 12.50		-	$t = 8.22^{**}$	-
$RCPr_3$	19 15.83		-	-	$t = 7.49^{**}$

N_p ($\%_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n ($\%_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** $\alpha = .01$
$RCPr_1$ (Consult more online resources to prepare instructional inputs); $RCPr_2$ (Develop competencies in using online resources in the teaching-learning process); and $RCPr_3$ (Consult more library resources to prepare instructional inputs)

There are significant differences between the percentage of teacher educators, who have a positive and negative impact, in all the three statements (i.e. $RCPr_1$, $RCPr_{2,}$ and $RCPr_3$), as the values of t = 8.58, 8.22, and 7.49 are significant at $\alpha = .01$ (table 4.82). Therefore, all three statements have a significantly more positive impact on teacher educators as compared to their negative impact. Thus, H_o stands not accepted for statements $RCPr_1$,

RCPr$_2$, and RCPr$_3$ of resource consultation product (RCPr) dimension of Product factor of B.Ed. programme.

4.1.2.20   Statementwise Analysis of Data of Professional Training Product Dimension of Product Factor of Impact of B.Ed. Programme on Teacher Educators

The synthetic indexes for the six statements related to the Professional Training Product (PTPr) dimension of the impact of B.Ed. programme are 2.88, 3.09, and 3.07 (table 4.83) as mean values; which indicates that there is a positive impact of the six statements on teacher educators. The arrangement of mean values in descending order of their impact on teacher educators is as follows:

PTPr$_2$ (3.09) > PTPr$_3$ (3.07) > PTPr$_1$ (2.88)

Based on the above order of statements with respect to their synthetic mean values, it is found that the two statements i.e. PTPr$_2$ (Working more for professional enhancement activities) and PTPr$_3$ (Involvement in teaching internship has increased) have more impact on teacher educators as compared to the statement PTPr$_1$ (Participation in faculty development programmes has increased) as professional training product (PTPr) dimension of Product factor of B.Ed. programme.

Table 4.83

Means Matrix Showing Significance of Difference in Means of Three Statements of Professional Training Product Dimension of Product Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements ⟶			PTPr$_2$	PTPr$_3$	PTPr$_1$
↓	M ⟶		3.09	3.07	2.88
	SD ↓		.70	.75	.67
PTPr$_2$	3.09	r	-	.42**	.69**
	.70	t		.35	4.42**
PTPr$_3$	3.07	r		-	.42**
	.75	t			2.73**
PTPr$_2$	2.88	r			-
	.67	t			

$^{**}\alpha = .01$

PTPr$_1$ (Participation in faculty development programmes has increased); PTPr$_2$ (Working more for professional enhancement activities); and PTPr$_3$ (Involvement in teaching internship has increased)

The significance of the difference between these means have been compared and shown in the means matrix presented in the table 4.83 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of three statements of professional training product dimension of Product factor of B.Ed. programme on teacher educators.

There are significant differences in the impact of the two comparisons between means of responses for the statements $PTPr_2$ and $PTPr_3$ over the statement $PTPr_1$, as the values of t $_{(119)}$ = 4.42 and 2.73 are significant at α = .01; and there is a non-significant difference in the impact of comparison between means of responses for the statements $PTPr_2$ vs $PTPr_3$, as the value of t $_{(119)}$ = .35 is non-significant at α = .05 (table 4.83). Therefore, the higher mean score of $PTPr_2$ (M_{PTPr2} = 3.09) and $PTPr_3$ (M_{PTPr3} = 3.07) indicates that $PTPr_2$ and $PTPr_3$ have significantly more impact on teacher educators as compared to $PTPr_1$ (M_{PTPr1} = 2.88). On the other hand, the statements $PTPr_2$ vs $PTPr_3$ have no significant difference in the impact on teacher educators. Thus, H_o stands not accepted for the two comparisons between means of responses to the statements $PTPr_2$ vs $PTPr_3$ and $PTPr_2$ vs $PTPr_1$ whereas H_o stands accepted for a comparison between means of responses to the statements $PTPr_2$ vs $PTPr_3$ of professional training product (PTPr) dimension of Product factor of B.Ed. programme.
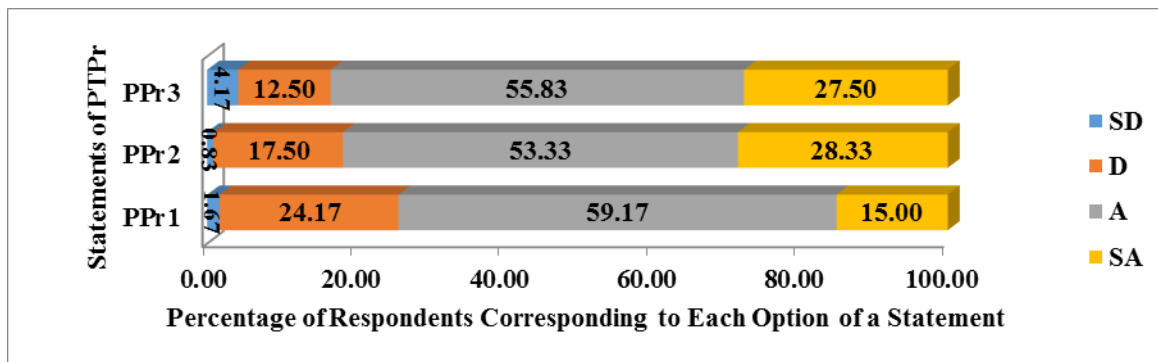
Figure 4.69: Percentage of Responses of Teacher Educators Corresponding to Each Option of Professional Training Statements

Based on the percentages of teacher educators corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.69), it is found that the maximum percentage of teacher educators opted the option agree (A) and strongly agree (SA) which results to the positive impact of the three statements of professional training product (PTPr) dimension of Product factor of B.Ed. programmeon teacher educators.

Table 4.84

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Three Statements of Professional Training Product Dimension of Product Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements ⟶			$PTPr_1$	$PTPr_2$	$PTPr_3$
↓	N_n ↓ $\%_n$ ↓	N_p ⟶ $\%_p$ ⟶	89 74.17	98 81.67	100 83.33
$PTPr_1$	31 25.83		t =5.29**	-	-
$PTPr_2$	22 18.33		-	t =6.94**	-
$PTPr_3$	20 16.67		-	-	t =7.30**

*N_p ($\%_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n ($\%_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** $\alpha = .01$*
$PTPr_1$ (Participation in faculty development programmes has increased); $PTPr_2$ (Working more for professional enhancement activities); and $PTPr_3$ (Involvement in teaching internship has increased)

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented above (table 4.84) and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of three statements of professional training product dimension of Product factor of B.Ed. programme on teacher educators.

There are significant differences between the percentage of teacher educators, who have a positive and negative impact, in all the three statements (i.e. $PTPr_1$, $PTPr_2$, and $PTPr_3$), as the values of t = 5.29, 6.94, and 7.30 are significant at $\alpha = .01$ (table 4.84). Therefore, all

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three statements have a significantly more positive impact on teacher educators as compared to their negative impact. Thus, H_o stands not accepted for the statements $PTPr_1$, $PTPr_2$, and $PTPr_3$ of professional training product (PTPr) dimension of Product factor of B.Ed. programme.

4.1.2.21 Statementwise Analysis of Data of Evaluation Responsibilities Product Dimension of Product Factor of Impact of B.Ed. Programme on Teacher Educators

The synthetic indexes for the two statements related to the Evaluation Responsibilities Product (ERPr) dimension of the impact of B.Ed. programme are 3.23 and 3.03 (table 4.85) as mean values; which indicates that there is a positive impact of both the statements on teacher educators. The mean value of the ratings for statement $ERPr_1$ (3.23) is higher than the statement $ERPr_2$ (3.03).

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement $ERPr_1$ (Evaluation responsibilities have increased) has more impact on teacher educators as compared to the statement $ERPr_2$ (Develop skills in designing various assessment strategies) as evaluation responsibilities product (ERPr) dimension of Product factor of B.Ed. programme.

Table 4.85

Means Matrix Showing Significance of Difference in Means of Two Statements of Evaluation Responsibilities Product Dimension of Product Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements ⟶			$ERPr_1$	$ERPr_2$
↓	M ⟶		3.23	3.03
	SD ↓		.67	.57
$ERPr_1$	3.23	r	-	.20*
	.67	t		2.90**
$ERPr_2$	3.03	r		-
	.57	t		

** $\alpha = .01$

$ERPr_1$ (Evaluation responsibilities have increased) and $ERPr_2$ (Develop skills in designing various assessment strategies)

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.85 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of two statements of evaluation responsibilities product dimension of Product factor of B.Ed. programme on teacher educators.

There is a significant difference in the impact of comparison between means of responses for the statement $ERPr_1$ over the statement $ERPr_2$, as the value of t $_{(119)}$ = 2.90 is significant at α = .01 (table 4.85). Therefore, the higher mean score of $ERPr_1$ (M_{ERPr1} = 3.23) indicates that $ERPr_1$ has significantly more impact on teacher educators as compared to $ERPr_2$ (M_{ERPr2} = 3.03). Thus, H_o stands not accepted for a comparison between means of responses to the statements $ERPr_1$ vs $ERPr_2$ of evaluation responsibilities product (ERPr) dimension of Product factor of B.Ed. programme.

Based on the percentages of teacher educators corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.70), it is found that the maximum percentage of teacher educators opted the option agree (A) and strongly agree (SA) which results to the positive impact of the two statements of evaluation responsibilities product (ERPr) dimension of Product factor of B.Ed. programme on teacher educators.
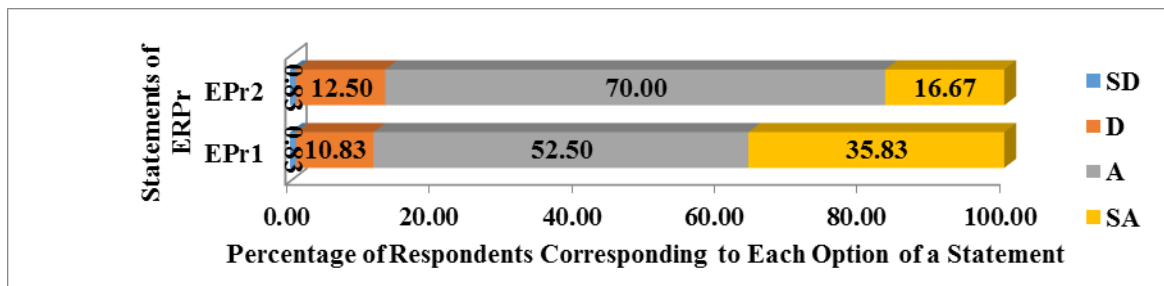
Figure 4.70:   Percentage of Responses of Teacher Educators Corresponding to Each Option of Evaluation ResponsibilitiesStatements

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in table 4.86 and tested against the following null hypothesis:

H$_o$:   There is no significant difference in the positive and negative impact of two statements of evaluation responsibilities product dimension of Product factor of B.Ed. programme on teacher educators.

Table 4.86

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Two Statements of Evaluation Responsibilities Product Dimension of Product Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements ⟶			ERPr$_1$	ERPr$_2$
	N$_n$ ↓ %$_n$ ↓	N$_p$ ⟶ %$_p$	106 88.33	104 86.67
ERPr$_1$	14 11.67		**t =8.40****	-
ERPr$_2$	16 13.33		-	**t =8.03****

N$_p$ (%$_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N$_n$ (%$_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01
ERPr$_1$ (Evaluation responsibilities have increased) and ERPr$_2$ (Develop skills in designing various assessment strategies)

There are significant differences between the percentage of teacher educators, who have a positive and negative impact, in both the statements (i.e. ERPr$_1$ and ERPr$_2$), as the values of t = 8.40 and 8.03 are significant at α = .01 (table 4.86). Therefore, both the statements have a significantly more positive impact on the teacher educators as compared to their negative impact. Thus, H$_o$ stands not accepted for statements ERPr$_1$ and ERPr$_2$ of evaluation responsibilities product (ERPr) dimension of Product factor of B.Ed. programme.

4.1.2.22 **Statementwise Analysis of Data of Social Responsibilities Product Dimension of Product Factor of Impact of B.Ed. Programme on Teacher Educators**

The synthetic indexes for the two statements related to the Social Responsibilities Product (SRPr) dimension of the impact of B.Ed. programme are 2.76 and 3.12 (table 4.87) as mean values; which indicates that there is a positive impact of both the statements on teacher educators. The mean value of the ratings for statement $SRPr_2$ (3.12) is higher than the statement $SRPr_1$ (2.76).

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement $SRPr_2$ (Social competencies have improved) has more impact on teacher educators as compared to the statement $SRPr_1$ (Working more for collaboration with NGOs) as social responsibilities product (SRPr) dimension of Product factor of B.Ed. programme.

Table 4.87

Means Matrix Showing Significance of Difference in Means of Two Statements of Social Responsibilities Product Dimension of Product Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements→			$SRPr_2$	$SRPr_1$
↓	M→		3.12	2.76
	SD↓		.65	.73
$SRPr_2$	3.12	r	-	.38[*]
	.65	t		5.06[**]
$SRPr_1$	2.76	r		-
	.73	t		

** α = .01

*$SRPr_1$ (Working more for collaboration with NGOs) and $SRPr_2$ (Social competencies have improved)*

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.87 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of two statements of social responsibilities product dimension of Product factor of B.Ed. programme on teacher educators.

There is a significant difference in the impact of comparison between means of responses for the statement $SRPr_2$ over the statement $SRPr_1$, as the value of t $_{(119)}$ = 5.06 is significant at α = .01 (table 4.87). Therefore, the higher mean score of $SRPr_2$ (M_{SRPr1} = 3.12) indicates that $SRPr_2$ has significantly more impact on teacher educators as compared to $SRPr_1$ (M_{SRPr2} = 2.76). Thus, H_o stands not accepted for a comparison between means of responses to the statements $SRPr_2$ vs $SRPr_1$ of social responsibilities product (SRPr) dimension of Product factor of B.Ed. programme.
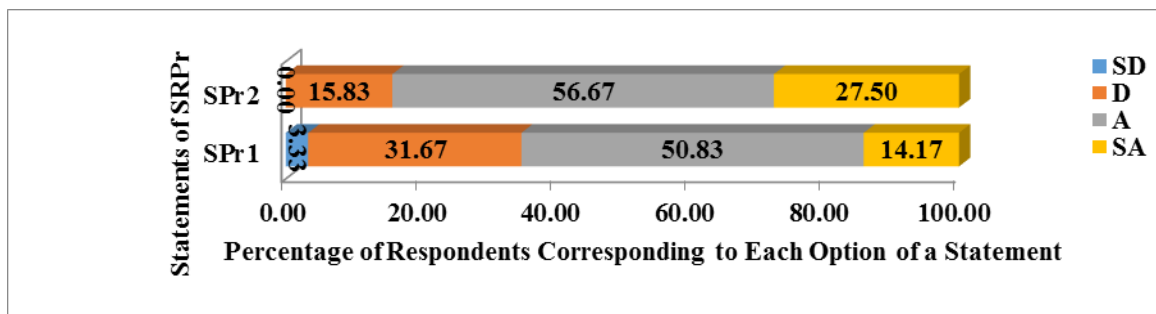
Figure 4.71: Percentage of Responses of Teacher Educators Corresponding to Each Option of Social ResponsibilitiesStatements

Based on the percentages of teacher educators corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.71), it is found that the maximum percentage of teacher educators opted the option agree (A) and strongly agree (SA) which results to the positive impact of both the statements of social responsibilities product (SRPr) dimension of the Product factor of B.Ed. programme on teacher educators.

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented above (table 4.88) and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of two statements of social responsibilities product dimension of Product factor of B.Ed. programme on teacher educators.

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Table 4.88

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Two Statements of Social Responsibilities Product Dimension of Product Factor regarding Impact of B.Ed. Programme on Teacher Educators

Statements ⟶			$SRPr_1$	$SRPr_2$
↓	N_n ↓ %n ↓	N_p ⟶ %p ⟶	78 65.00	101 84.17
$SRPr_1$	42 35.00		$t = 3.29^{**}$	-
$SRPr_2$	19 15.83		-	$t = 7.49^{**}$

*N_p (%p) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n (%n) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01*
$SRPr_1$ (Working more for collaboration with NGOs) and $SRPr_2$ (Social competencies have improved)

There is a significant difference between the percentage of teacher educators, who have a positive and negative impact, in both the statements (i.e. $SRPr_1$ and $SRPr_2$), as the values of t = 3.29 and 7.49 are significant at α = .01 (table 4.88). Therefore, both the statements have a significantly more positive impact on the teacher educators (i.e. $SRPr_1$ and $SRPr_2$) as compared to their negative impact. Thus, H_o stands not accepted for statements $SRPr_1$ and $SRPr_2$ of social responsibilities product (SRPr) dimension of Product factor of B.Ed. programme.

4.1.2.23 Contribution of Context, Input, Process, and Product Factors (CIPP) of B.Ed. Programme in Impact of B.Ed. Programme on Teacher Educators

The multiple linear regression analysis was applied to the collected data to see the relative contributions of context, input, process, and product in the impact of B.Ed. programme on teacher educators. The details are presented below in table 4.89 and 4.90. From table 4.89, it is clear that the independent variables i.e., context, input, process, and product factors of B.Ed. programme are significant contributors to the total impact of B.Ed. programme (the dependent variable) on teacher educators.

Table 4.89

Model and ANOVA Summary for Context, Input, Process, and Product (CIPP) Factors of B.Ed. Programme as Contributor of Impact of B.Ed. Programme on Teacher Educators

Model	R	R square	Adjusted R square	Std. Error of Estimate	F-value	Sign.
CIPP &IBP on TEs	1.00[a]	1.00	1.00	.0032	380782.52	.000[b]
a. Predictors: (Constant), Context, Input, Process, and Product; b. Dependent Variable: IBP						

CIPP-Context, Input, Process, and Product; IBP- Impact of B.Ed. program; and TEs- Teacher Educators

Table 4.90

Coefficients [a] and t-values for CIPP & Impact of B.Ed. Programme on Teacher Educators

Model		Unstandardized Coefficients		Standardized Coefficients	t-value	Sign.
		B	Std. Error	Beta		
CIPP & IBP on PTs	Constant	-.003	.003	-	1.25	.21
	Context	.15	.001	.20	153.52	.000
	Input	.26	.001	.28	181.12	.000
	Process	.30	.001	.33	250.90	.000
	Product	.30	.001	.34	286.21	.000

CIPP-Context, Input, Process, and Product; IBP- Impact of B.Ed. program; and TEs- Teacher Educators

The standardized coefficient 'β' (determination coefficient) values (table 4.90) concluded that the product factor (.34) and context factor (.20) of B.Ed. programme has made maximum and minimum contribution respectively in the impact of B.Ed. programme on teacher educators. The order of relative contribution of context, input, process, and product factors in the impact of B.Ed. programme on teacher educators is given below:

Product (.34) > Process (.33) > Input (.28) > Context (.20)

Now, the summary of the results, related to the impact of B.Ed. programme on teacher educators are pointwise mentioned below:

1. Based on the descriptive and inferential analysis, it has been found that there is whole (net), factorwises, dimensionwise, and indicatorwise/statementwise positive impact of B.Ed. programme on teacher educators.

2. Context factor has maximum and Product factor has a minimal positive impact on teacher educators.

3. Based on the descriptive and inferential analysis, it has been found that Mission & Vision (MV); Resource Input (RI); Pedagogical Process (PDP); and Resource Consultation Product (RCPr) dimensions of Context; Input; Process and Product factors respectively of B.Ed. programme has a maximum positive impact on PTs and the dimension Programme Objectives (PO); Evaluation Input (EI); Training Process (TP); and Social Responsibilities Product (SRPr) dimensions of Context; Input; Process and Product factors respectively of B.Ed. programme has a minimum positive impact on teacher educators.

4. On the basis of descriptive and inferential analysis, it has been found that MV_3 (Develops skills to deal with the diverse problems of class in them), MV_1 (Develops prospective teachers into a competent professional), PO_1 (Focuses upon the practical aspects of teaching and learning process), PO_3 (Link school knowledge with community life), AI_1 (B.Ed. programme give inputs to include various subject specific activities), TI_2 (B.Ed. programme give input to supervise

simulated teaching for training in teaching skill), PI_1 (Participate in different professional activities for the enhancement of professional capacities), PI_3 (Give extra input for state/center level teacher eligibility test), EI_2 (Supervise and evaluate the academic work with the help of technology), PDP_1 (Use real life experiences of both pupil teachers and teacher educators in the teaching learning process), EP_2 (Apply various formative assessment strategies in evaluation), PP_4 (Organize workshops/seminars for professional enhancement of pupil teachers), TP_1 (Work as facilitator in field attachment), $ANAPr_2$ (Academic responsibilities have increased), $RCPr_1$ (Consult more online resources to prepare instructional inputs), $PTPr_2$ (Working more for professional enhancement activities), $ERPr_1$ (Evaluation responsibilities have increased) and $SRPr_2$ (Social competencies have improved) indicators/statements of B.Ed. programme have maximum positive impact on teacher educators whereas MV_4 (Develops inclusive competencies to deal with diverse students), PO_4 (Increases employment opportunities for prospective teachers), AI_2 (B.Ed. programme give inputs to include subject-specific field-based assignments), TI_1 (B.Ed. programme give input to execution of diverse projects), PI_2 (Work in collaborative partnership with community and NGOs), EI_1 (Use of rubrics for evaluation), PDP_5 (Use different learning resource centers for developing subject-specific competencies), EP_1 (Discuss detailed evaluation criteria in the beginning of lesson), PP_1 (Use rubrics to assess various parameters of teaching internship), TP_3 (Organize community projects in collaboration with NGOs), $ANAPr_1$ (Workload has reduced), $RCPr_2$ (Develop competencies in using online resources in teaching-learning process), $PTPr_1$(Participation in faculty development programmes has increased), $ERPr_2$ (Develop skills in designing various assessment strategies)and $SRPr_1$ (Working more for collaboration with NGOs)indicators/statements of B.Ed. programme has a minimum positive impact on teacher educators. The RI_1 (Use different learning resources) and RI_2 (Use modern learning facilities in classroom teaching)

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indicators/statements of B.Ed. programme has the same positive impact on teacher educators,

5. Based on the multiple linear regression analysis, it has been found that Context, Input, Process, and Product factors of B.Ed. programme are significant contributors to the impact of B.Ed. programme on teacher educators. The arrangement in the descending order of their relative contribution in the impact of B.Ed. programme on teacher educators is as follows:

Product > Process > Input > Context

6. Therefore, multiple linear regression analysis showed that, out of the four factors of B.Ed. programme, Product factor is the strongest contributor, and Context factor is the weakest contributor of the impact of B.Ed. programme on teacher educators.

Next, the responses of the principals of colleges of education on ESIBP-PCE have been analyzed to study the impact of B.Ed. programme on principals of colleges of education with respect to total scores, factorwise scores, dimensionwise scores, statementwise scores, and role of four factors of B.Ed. programme on the impact of B.Ed. programme on principals of colleges of education.

4.1.3. IMPACT OF B.ED. PROGRAMME (IBP) ON PRINCIPALS OF COLLEGES OF EDUCATION (PCE)

The evaluation scale for the impact of B.Ed. programme (ESIBP-PCE) was filled by Principals of Colleges of Education (N=24) of Punjab (N=11), Himachal Pradesh (N=3), and Haryana (N=10).

4.1.3.1 Analysis of Overall Impact of B.Ed. Programme on Principals of Colleges of Education

In figure 4.72, the distribution of the mean of ratings of principals of colleges of education on the impact of B.Ed. programme follows the pattern of the normal probability curve. It indicates that the data of mean of ratings of principals of colleges of education on the impact of B.Ed. programme is normally distributed.

Mean of Ratings of PCE on the IBP
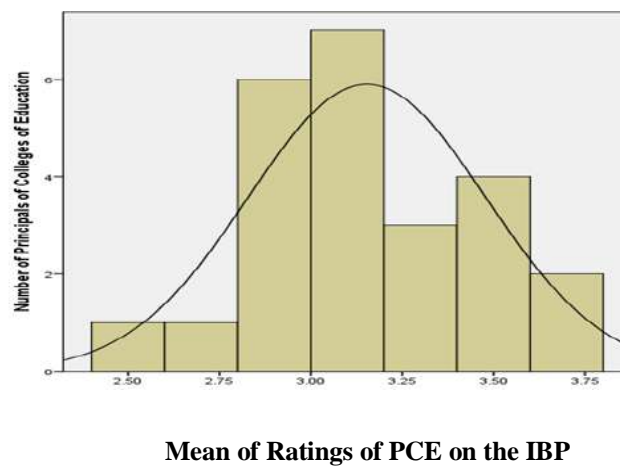
Figure 4.72   PCE Rating depicting the IBP

The frequency distribution and synthetic indexes i.e. mean and standard deviations are shown in tables 4.91 and 4.92 for the overall impact of B.Ed. programme on principals of colleges of education. The strongly disagree and disagree responses show the negative whereas the strongly agree and agree responses show the positive impact of B.Ed. programme on the respondents. Based on the mean of ratings of principals of colleges of education for all the statements in ESIBP-PCE, it is found that the maximum numbers of principals of colleges of education (N = 24, 100%) have a positive impact of B.Ed. programme and their mean ratings varied from 2.51 to 4.00 (table 4.91).

Table 4.91

Frequency Distribution of Mean of Ratings of Principals of Colleges of Education on ESIBP

S. No.	IBP	Mean of Ratings	Number of Principals
1	Negative	1.00 – 2.50	00
2	Positive	2.51 – 4.00	24
	Total		24

Synthetic indexes are constructed to summarize the average of the rating scores on each item constituting the impact of B.Ed. programme on principals of colleges of education (table 4.92).

Table 4.92

Values of Mean and Standard Deviation as Synthetic Index of the Impact of B.Ed. Programme on Principals of Colleges of Education

Impact of B.Ed. Programme on Principals of Colleges of Education	N	M	SD
	24	3.15	.32

The synthetic indexes i.e. mean and standard deviation, of responses to statements associated with the impact of B.Ed. programme, are 3.15 and .32 (table 4.92). It is found that the maximum number of principals of colleges of education responded to option *'agree'/ 'strongly agree'*, so the impact of B.Ed. programme is positive on principals of colleges of education.

4.1.3.2 Factorwise Analysis of Data of Impact of B.Ed. Programme Scores on Principals of Colleges of Education

In figures 4.73 to 4.76, the distribution of the mean of ratings of principals of colleges of education on the four factors i.e. Context, Input, Process, and Product factors/concerns of the impact of B.Ed. programme follows the pattern of the normal probability curve. It indicates that the data of mean of ratings of principals of colleges of education on the four factors are normally distributed.
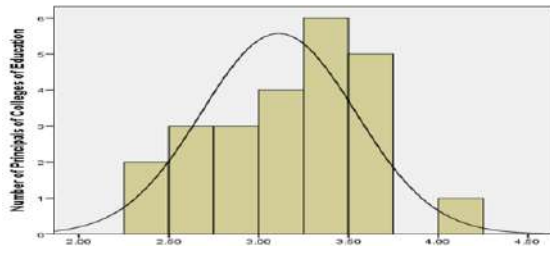
Mean of Ratings of PCE on Context Factor

Figure 4.73 Principals Rating depicting the contribution of Context Factor towards IBP
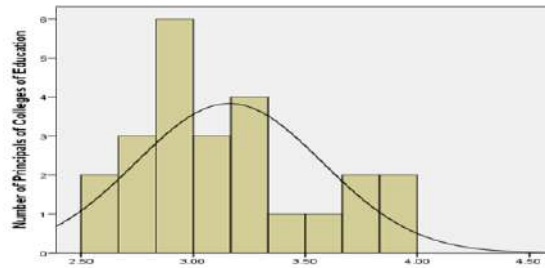
Mean of Ratings of PCE on Input Factor

Figure 4.74 Principals Rating depicting the contribution of Input Factor towards IBP
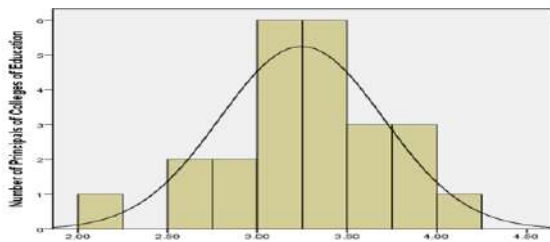
Mean of Ratings of PCE on Process Factor

Figure 4.75 Principals Rating depicting the contribution of Process Factor towards IBP
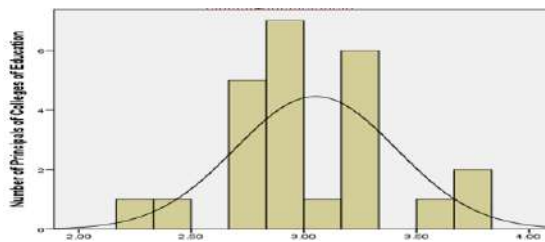
Mean of Ratings of PCE on Product Factor

Figure 4.76 Principals Rating depicting the contribution of Product Factor towards IBP

The frequency distribution and synthetic indexes i.e. mean and standard deviations are shown in tables 4.93 and 4.94 for the factorwise impact of B.Ed. programme on principals of colleges of education. The strongly disagree and disagree responses show the negative whereas the strongly agree and agree responses show the positive impact of B.Ed. programme on the respondents. Based on the mean ratings of principals of colleges of education for the four factors in ESIBP-PCE, it is found that the maximum number of principals of colleges of education ($N_{Context}$ = 21, 87.5%; N_{Input} = 24, 100%; $N_{Process}$ =23, 95.83%; and $N_{Product}$ =22, 91.67%) have a positive impact of B.Ed. programme and their mean ratings varied from 2.51 to 4.00 (table 4.91).

Table 4.93

Frequency Distribution of Mean of Ratings of Principals of Colleges of Education on

Four Factors of ESIBP-PCE

S. No.	IBP	Mean of Ratings	Number of Principals in different Factors of ESIBP-PCE			
			Context	Input	Process	Product
1	Negative	1.00 – 2.50	03	00	01	02
2	Positive	2.51 – 4.00	21	24	23	22
Total			24	24	24	24

The synthetic indexes for the four factors of impact of B.Ed. programme are 3.11, 3.16, 3.24 & 3.05 as mean values; and .43, .42, .46 & .36 as standard deviation values, respectively (table 4.93). The self-reporting of principals of colleges of education for the impact of the four factors of B.Ed. programme indicates the positive impact of all these four factors of B.Ed. programme on them. The range of the mean of ratings on the four factors of B.Ed. programme is from 3.05 to 3.24, and the arrangement in descending order of their impact on principals of colleges of education is as follows:

Process (3.24) > Input (3.16) > Context (3.11) > Product (3.05)

Table 4.94

Means Matrix Showing Significance of Difference in Means of Four Factors

regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Factor ⟶		Process	Input	Context	Product
↓	M	3.24	3.16	3.11	3.05
	SD	.46	.42	.43	.36
Process	r	-	.75**	.48**	.20
	t		1.35	1.46	1.83
Input	r		-	.55**	.24
	t			.60	1.12
Context	r			-	.33
	t				.64
Product	r				-
	t				

** $\alpha = .01$

The significance of the difference between these means have been compared and shown in the means matrix presented in the table 4.94 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of four factors of B.Ed. programme on principals of colleges of education.

There is an indication of non-significant differences in the impact of the six comparisons between means of responses for Process vs Input; Process vs Context; Process vs Product; Input vs Context; Input vs Product; and Context vs Product factors of B.Ed. programme, as the values of $t_{(23)}$ = 1.35, 1.46, 1.83, .60, 1.12 and .64 are non-significant at α = .05 (table 4.94). Therefore, Process vs Input; Process vs Context; Process vs Product; Input vs Context; Input vs Product; and Context vs Product factors have no significant difference in the impact on principals of colleges of education. Thus, H_o stands accepted for the six comparisons between means of responses to Process vs Input; Process vs Context; Process vs Product; Input vs Context; Input vs Context; Input vs Product; and Context vs Product factors of B.Ed. programme.

4.1.3.3 Dimensionwise Analysis of Data of Context Factor of Impact of B.Ed. Programme Scores on Principals of Colleges of Education

In figures 4.77 to 4.78, the distribution of the mean of ratings of principals of colleges of education on the two dimensions i.e. Mission & Vision (MV) and Programme Objectives (PO) of Context factor of impact of B.Ed. programme follows the pattern of the normal probability curve.
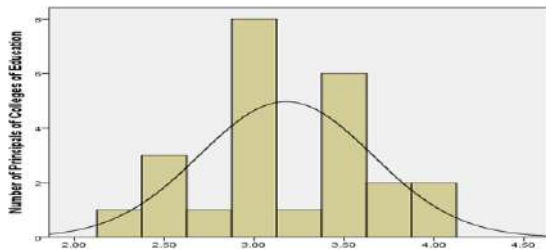
Mean of Ratings of PCE on MI Dimension	**Mean of Ratings of PCE on PO Dimension**
Figure 4.77 Principals Rating depicting the contribution of MV dimension of Context Factor towards IBP	**Figure 4.78 Principals Rating depicting the contribution of PO dimension of Context Factor towards IBP**

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It indicates that the data of mean of ratings of principals of colleges of education on the two dimensions i.e. mission & vision (MV) and programme objectives (PO) is normally distributed.

The frequency distribution and synthetic indexes i.e. mean and standard deviations are shown in tables 4.95 and 4.96 for the dimensionwise impact of B.Ed. programme, related to Context factor, on principals of colleges of education. The strongly disagree and disagree responses show the negative whereas the strongly agree and agree responses show the positive impact of B.Ed. programme on the respondents. Based on the mean of ratings of principals of colleges of education for the two dimensions i.e. mission & vision and programme objectives of Context factor in ESIBP-PTs, it is found that the maximum number of principals of colleges of education (N_{MV} = 20, 83.33% and N_{PO} =19, 79.17%) have a positive impact of B.Ed. programme and their mean of ratings varied from 2.51 to 4.00 (table 4.95).

Table 4.95
Frequency Distribution of Mean of Ratings of Principals of Colleges of Education on Two Dimensions of the Context Factor of ESIBPS-PCE

S. No.	IBP	Mean of Ratings	Number of Principals of Colleges of Education	
			Mission & Vision (MV)	Programme Objectives (PO)
1	Negative	1.00 – 2.50	04	05
2	Positive	2.51 – 4.00	20	19
Total			24	24

The synthetic indexes for the two dimensions i.e., Mission & Vision (MV) and Programme Objectives (PO) of Context factor of impact of B.Ed. programme are 3.18 & 3.04 as mean values; and .48 & .44 as standard deviation values, respectively (table 4.96). It is found that both dimensions have a positive impact on principals of colleges of education. The mean value of ratings for dimension mission & vision (3.18) is higher than the value of the dimension programme objectives (3.04).

The significance of the difference between these means have been compared and shown in the means matrix presented in the table 4.96 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of two dimensions of Context factor of B.Ed. programme on principals of colleges of education.

Table 4.96

Means Matrix Showing Significance of Difference in Means of Two Dimensions of Context Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Dimension ⟶		MV	PO
⟱	M	**3.18**	**3.04**
	SD	.48	.44
Mission & Vision (MV)	r	-	**.75**[**]
	t		2.01
Programme Objectives (PO)	r		-
	t		

[**] $\alpha = .01$

There is a non-significant difference in the impact of comparison between means of responses for the dimension mission & vision over the dimension programme objectives as the value of t $_{(23)}$ = 2.01 is non-significant at α = .05 (table 4.94). Therefore, the dimensions mission & vision and programme objectives have no significant difference in the impact on principals of colleges of education. Thus, H_o stands accepted for a comparison between means of responses to the dimensions mission & vision vs programme objectives of Context factor of B.Ed. programme.

4.1.3.4 Dimensionwise Analysis of Data of Input Factor of Impact of B.Ed. Programme Scores on Principals of Colleges of Education

In figures 4.79 to 4.82, the distribution of the mean of ratings of principals of colleges of education on the four dimensions i.e. Academic & Evaluation Input (AEI), Resource Input (RI), Training Input (TI), and Professional Input (PI) of Input factor of impact of B.Ed. programme follows the pattern of the normal probability curve. It indicates that the data of mean of ratings of principals of colleges of education on the four dimensions of Input factor of impact of B.Ed. programme is normally distributed.

Mean of Ratings of PCE on AEI Dimension
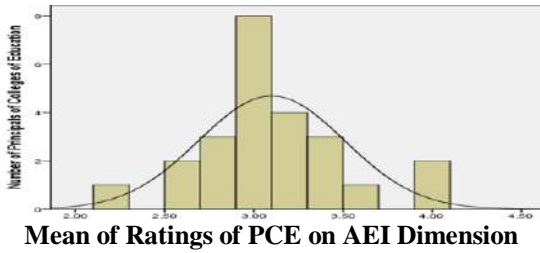
Figure 4.79 Principals Rating depicting the contribution of AEI dimension of Input Factor towards IBP

Mean of Ratings of PCE on RI Dimension
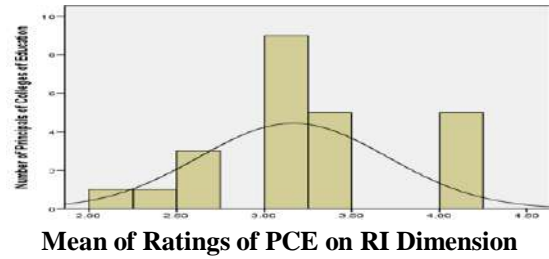
Figure 4.80 Principals Rating depicting the contribution of RI dimension of Input Factor towards IBP

Mean of Ratings of PCE on TI Dimension
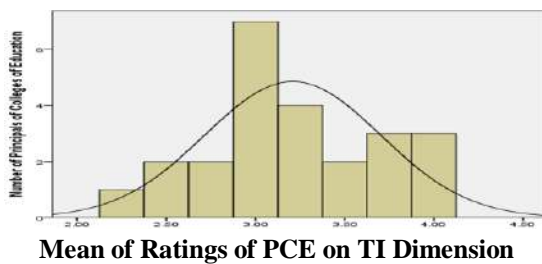
Figure 4.81: Principals Rating depicting the contribution of TI dimension of Input Factor towards IBP

Mean of Ratings of PCE on PI Dimension
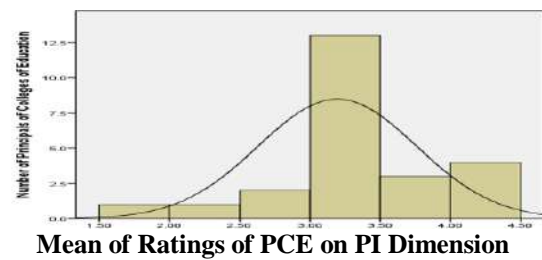
Figure 4.82: Principals Rating depicting the contribution of PI dimension of Input Factor towards IBP

The frequency distribution and synthetic indexes i.e. mean and standard deviations are shown in tables 4.97 and 4.98 for the dimensionwise impact of B.Ed. programme, related to Input dimension, on principals of colleges of education. The strongly disagree and disagree responses show the negative whereas the strongly agree and agree responses show the positive impact of B.Ed. programme on the respondents. Based on the mean of ratings of principals of colleges of education for the four dimensions of Input factor in ESIBP-PCE, it is found that the maximum number of principals of colleges of education (N_{AEI} = 23, 95.83%; N_{RI} = 22, 91.67%; N_{TI} = 21, 87.5%; and N_{PI} =22, 91.67%) have a positive impact of B.Ed. programme and their mean ratings varied from 2.51 to 4.00 (table 4.97).

Table 4.97

Frequency Distribution of Mean of Ratings of Principals of Colleges of Education on Four Dimensions of Input Factor of ESIBP-PCE

S. No.	IBP	Mean of Ratings	Number of Principals of Colleges of Education			
			AEI	RI	TI	PI
1	Negative	1.00 – 2.50	01	02	03	02
2	Positive	2.51 – 4.00	23	22	21	22
Total			24	24	24	24

The synthetic indexes for the four dimensions i.e., Academic & Evaluation Input (AEI), Resource Input (RI), Training Input (TI), and Professional Input (PI) of Inputfactor of the impact of B.Ed. programme are 3.10, 3.17, 3.21 & 3.19 as mean values; and .41, .54, .49 & .56 as standard deviation values respectively (table 4.98). It indicates that all four dimensions have a positive impact on principals of colleges of education. The range of the mean of ratings is from 3.10 to 3.21, and the arrangement of these mean values in descending order of their impact on principals of colleges of education is as follows:

PI (3.21) > TI (3.19) > RI (3.17) > AEI (3.10)

Table 4.98

Means Matrix Showing Significance of Difference in Means of Four Dimensions of Input Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Dimension ⟶		PI	TI	RI	AEI
	M	3.21	3.19	3.17	3.10
	SD	.49	.56	.54	.41
Professional Input (PI)	r	-	.63**	.62**	.53**
	t		.15	.29	.94
Training Input (TI)	r		-	.83**	.58**
	t			.68	1.27
Resource Input (RI)	r			-	.65**
	t				.78
Academic & Evaluation Input (AEI)	r				-
	t				

** $\alpha = .01$

The significance of the difference between these means have been compared and shown in the means matrix presented in the table 4.98 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of four dimensions of the Input factor of B.Ed. programme on principals of colleges of education.

There are non-significant differences in the impact of the six comparisons between means of responses for the dimensions professional input vs training input; professional input vs resource input; professional input vs academic & evaluation input; training input vs resource input; training input vs academic & evaluation input; and resource input vs academic & evaluation input as the values of t $_{(23)}$ = .15, .29, .94, .68, 1.27 and .78 are non-significant at α = .05 (table 4.98). Therefore, the dimensions professional input vs training input; professional input vs resource input; professional input vs academic & evaluation input; training input vs resource input; training input vs academic & evaluation input; and resource input vs academic & evaluation input has no significant difference in the impact on principals of colleges of education. Thus, H_o stands accepted for the six comparisons between means of responses to the dimensions professional input vs training input; professional input vs resource input; professional input vs academic & evaluation input; training input vs resource input; training input vs academic & evaluation input; and resource input vs academic & evaluation input of Input factor of B.Ed. programme.

4.1.3.5 Dimensionwise Analysis of Data of Process Factor of Impact of B.Ed. Programme Scores on Principals of Colleges of Education

In figures 4.83 to 4.85, the distribution of the mean of ratings of PCE on the three dimensions i.e. Administrative & Academic Process (AAP), Professional Process (PP), and Training & Evaluation Process (TEP) of Process factor of impact of B.Ed. programme follows the pattern of the normal probability curve. It indicates that the data of mean of ratings of principals of colleges of education (PCE) on the three dimensions of Process factor of impact of B.Ed. programme (IBP) is normally distributed.
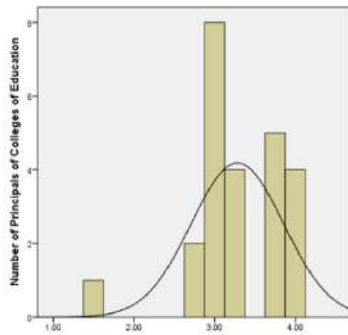
Mean of Ratings of PCE on AAP Dimension

Figure 4.83 Principals Rating depicting the contribution of AAP dimension of Process Factor towards IBP
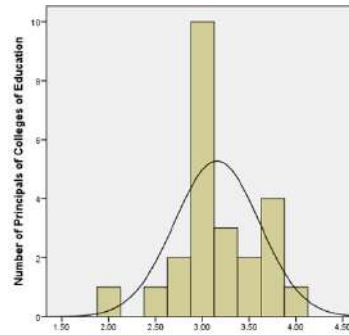
Mean of Ratings of PCE on PP Dimension

Figure 4.84 Principals Rating depicting the contribution of PP dimension of Process Factor towards IBP
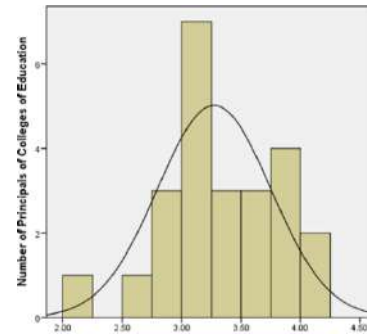
Mean of Ratings of PCE on TEP Dimension

Figure 4.85 Principals Rating depicting the contribution of TEP dimension of Process Factor towards IBP

The frequency distribution and synthetic indexes i.e. mean and standard deviations are shown in tables 4.99 and 4.100 for the dimensionwise impact of B.Ed. programme, related to Process dimension, on principals of colleges of education. The strongly disagree and disagree responses show the negative whereas the strongly agree and agree responses show the positive impact of B.Ed. programme on the respondents. Based on the mean ratings of principals of colleges of education for the three dimensions of the Process factor in ESIBP-PCE, it is found that the maximum number of principals of colleges of education (N_{AAP} = 23, 95.83%; N_{PP} = 22, 91.67%; and N_{TEP} =23, 95.83%) have a positive impact of B.Ed. programme and their mean of ratings varied from 2.51 to 4.00 (table 4.99).

Table 4.99

Frequency Distribution of Mean of Ratings of Principals of Colleges of Education on Three Dimensions of ProcessFactorof ESIBP-PCE

S. No.	IBP	Mean of Ratings	Number of Principals of Colleges of Education		
			AAP	PP	TEP
1	Negative	1.00 – 2.50	01	02	01
2	Positive	2.51 – 4.00	23	22	23
Total			24	24	24

The synthetic indexes for the three dimensions i.e., Administrative & Academic Process (AAP), Professional Process (PP), and Training & Evaluation Process (TEP) of Process factor of impact of B.Ed. programme are 3.28, 3.16 & 3.27 as mean values; and .57, .45 & .48 as standard deviation values respectively (table 4.100). It indicates that all three dimensions have a positive impact on principals of colleges of education. The range of the mean of ratings is from 3.16 to 3.28, and the arrangement of these mean values in descending order of their impact on principals of colleges of education is as follows:

AAP (3.28) >TEP (3.27) >PP (3.16)

Table 4.100

Means Matrix Showing Significance of Difference in Means of Three Dimensions of Process Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Dimension ⟶		AAP	TEP	PP
↓	M	3.28	3.27	3.16
	SD	.57	.48	.45
Administrative & Academic Process (AAP)	r	-	.85**	.60**
	t		.13	1.30
Training & Evaluation Process (TEP)	r		-	.75**
	t			1.74
Professional Process (PP)	r			-
	t			

** α = .01 and * α = .05

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.100 and tested against the following null hypothesis:

H$_o$:   There is no significant difference in the impact of three dimensions of the Process factor of B.Ed. programme on principals of colleges of education.

There are non-significant differences in the impact of the three comparisons between means of responses for the dimensions i.e. administrative & academic process vs training & evaluation process; administrative & academic process vs professional process; and training & evaluation process vs professional process, as the values of t $_{(23)}$ = .13, 1.30

and 1.74 are non-significant at α = .05 (table 4.100). Therefore, the dimensions of administrative & academic process vs training & evaluation process; administrative & academic process vs professional process; and training & evaluation process vs professional process have no significant difference in the impact on principals of colleges of education. Thus, H_o stands accepted for the three comparisons between means of responses to the dimensions administrative & academic process vs training & evaluation process; administrative & academic process vs professional process; and training & evaluation process vs professional process of Process factor of B.Ed. programme.

4.1.3.6 Dimensionwise Analysis of Data of Product Factor of Impact of B.Ed. Programme Scores on Principals of Colleges of Education

In figures 4.86 to 4.88, the distribution of the mean ratings of principals of colleges of education on the three dimensions i.e., Administrative Product (ADPr), Managerial Product (MPr), and Training Product (TPr) of Product factor of impact of B.Ed. programme follows the pattern of the normal probability curve. It indicates that the data of mean of ratings of principals of colleges of education (PCE) on the three dimensions of Product factor of impact of B.Ed. programme (IBP) is normally distributed.
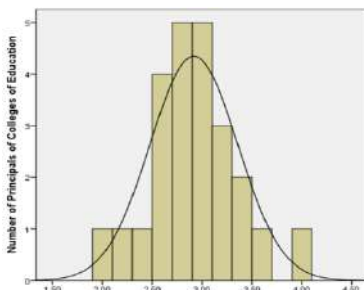
Mean of Ratings of PCE on ADPr Dimension	Mean of Ratings of PCE on MPr Dimension	Mean of Ratings of PCE on TPr Dimension
Figure 4.86 Principals Rating depicting the contribution ADPr dimension of Product Factor towards IBP	Figure 4.87 Principals Rating depicting the contribution of MPr dimension of Product Factor towards IBP	Figure 4.88 Principals Rating depicting the contribution TPr dimension of Product Factor towards IBP towards IBP

The frequency distribution and synthetic indexes i.e. mean and standard deviations are shown in tables 4.101 and 4.102 for the dimensionwise impact of B.Ed. programme,

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related to Product dimension, on principals of colleges of education. ==The strongly disagree and disagree responses show the negative whereas the strongly agree and agree responses show the positive impact of B.Ed. programme on the respondents.== Based on the mean ratings of principals of colleges of education for the three dimensions of Product factor in ESIBP-PCE, it is found that the maximum number of principals of colleges of education ==(N_{ADPr} = 21, 87.5%; N_{MPr} = 23, 95.83% and N_{TPr} = 21, 87.5%)== have a positive impact of B.Ed. programme and their mean ratings varied from 2.51 to 4.00 (table 4.101).

Table 4.101

Frequency Distribution of Mean of Ratings of Principals of Colleges of Education on Three Dimensions of ProductFactor of ESIBP-PCE

S. No.	IBP	Mean of Ratings	Number of Principals of Colleges of Education		
			ADPr	MPr	TPr
1	==Negative==	1.00 – 2.50	03	01	03
2	==Positive==	2.51 – 4.00	21	23	21
Total			24	24	24

The synthetic indexes for the three dimensions i.e., Administrative Product (ADPr), Managerial Product (MPr), and Training Product (TPr) of Product factor of impact of B.Ed. programme are 2.92, 3.11 & 3.18 as mean values; and .44, .42 & .57 as standard deviation values respectively (table 4.102). It means all three dimensions have a positive impact on principals of colleges of education. The range of the mean of ratings is from 2.92 to 3.18, and the arrangement of these mean values in descending order of their impact on principals of colleges of education is as follows:

TPr (3.18) > MPr (3.11) > ADPr (2.92)

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.102 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of three dimensions of the Product factor of B.Ed. programme on principals of colleges of education.

Table 4.102

Means Matrix Showing Significance of Difference in Means of Three Dimensions of Product Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Dimension ————————➔		TPr	MPr	ADPr
	M	3.18	3.11	2.92
	SD	.57	.42	.44
Training Product (TPr)	r	-	.56**	.09
	t		.67	1.85
Managerial Product (MPr)	r		-	.48*
	t			2.16*
Administrative Product (ADPr)	r			-
	t			

** $\alpha = .01$ and * $\alpha = .05$

There is a significant difference in the impact of comparison between means of responses for the dimension managerial product over the dimension administrative product, as the value of t $_{(23)}$ = 2.16 is significant at $\alpha = .05$, and there are non-significant differences in the impact of the two comparisons between means of responses for the dimensions training product vs managerial product; and training product vs administrative product, as the values of t $_{(23)}$ = .67 and 1.85 are non-significant at $\alpha = .05$ (table 4.102). Therefore, the higher mean score of the dimension managerial product (M_{MPr} = 3.18) indicates that the dimension managerial product has significantly more impact on principals of colleges of education as compared to the dimension administrative product (M_{ADPr} = 2.92). On the other hand, the dimensions training product vs managerial product and training product vs administrative product has no significant difference in the impact on principals of colleges of education. Thus, H$_o$ stands not accepted for a comparison between means of responses to the dimensions managerial product vs administrative product whereas H$_o$ stands accepted for the two comparisons between means of responses to the dimensions training product vs managerial product; and training product vs administrative product of Product factor of B.Ed. programme.

4.1.3.7 Statementwise Analysis of Data of Mission & Vision Dimension of Context Factor of Impact of B.Ed. Programme on Principals of Colleges of Education

The synthetic indexes for the four statements of Mission & Vision (MV) dimension of the impact of B.Ed. programme are 3.38, 3.17, 3.21, and 2.96 (table 4.103) as mean values; which indicates that there is a positive impact of the four statements on principals of colleges of education. The arrangement of mean values in descending order of their impact on principals of colleges of education is as follows:

$$MV_1 (3.38) > MV_3 (3.21) > MV_2 (3.17) > MV_4 (2.96)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement MV_1 (Develops prospective teachers into a competent professional) has more impact on principals of colleges of education as compared to the other three statements i.e. MV_3 (Develops skills to deal with the diverse problems of class in them); MV_2 (Emphasizes on the holistic development of prospective teachers); and MV_4 (Develops inclusive competencies to deal with diverse students) as mission & vision (MV) dimension of Context factor of B.Ed. programme.

Table 4.103

Means Matrix Showing Significance of Difference in Means of Four Statements of Mission & Vision Dimension of Context Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements ⟶ ↓		MV_1	MV_3	MV_2	MV_4
	M	3.38	3.21	3.17	2.96
	SD	.58	.66	.48	.81
MV_1	r	-	.59**	.55**	.32
	t		1.45	2.01*	2.46*
MV_3	r		-	.57**	.51*
	t			.37	1.66
MV_2	r			-	.13
	t				1.16
MV_4	r				-
	t				

** $\alpha = .01$ and * $\alpha = .05$

MV_1 (Develops prospective teachers into a competent professional); MV_2 (Emphasizes on the holistic development of prospective teachers); MV_3 (Develops skills to deal with the diverse problems of class in them); and MV_4 (Develops inclusive competencies to deal with diverse students)

The significance of the difference between these means have been compared and shown in the means matrix presented in the table 4.103 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of four statements of mission & vision dimension of Context factor of B.Ed. programme on principals of colleges of education.

There are significant differences in the impact of the two comparisons between means of responses for the statement MV_1 over the statements MV_2 and MV_4, as the values of t $_{(23)}$ = 2.01 and 2.16 are significant at α = .05; and there are non-significant differences in the impact of the four comparisons between means of responses for the statements MV_1 vs MV_3; MV_3 vs MV_2; MV_3 vs MV_4; and MV_2 vs MV_4, as the values of t $_{(23)}$ = 1.45, .37, 1.66 and 1.16 are non-significant at α = .05; (table 4.103). Therefore, the higher mean score of the statement MV_1 (M_{MV1} = 3.38) indicates that the statement MV_1 has significantly more impact on principals of colleges of education as compared to the statement MV_2 (M_{MV2} = 3.17) and MV_4 (M_{MV4} = 2.96). On the other hand, the statements MV_1 vs MV_3; MV_3 vs MV_2; MV_3 vs MV_4; and MV_2 vs MV_4 have no significant difference in the impact on principals of colleges of education. Thus, H_o stands not accepted for the two comparisons between means of responses to the statements MV_1 vs MV_2 and MV_1 vs MV_4 whereas H_o stands accepted for the four comparisons between means of responses to the statements MV_1 vs MV_3; MV_3 vs MV_2; MV_3 vs MV_4; and MV_2 vs MV_4.

Based on the percentages of PCE corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.89), it is found that the maximum percentage of principals of colleges of education opted the option agree (A) and strongly agree (SA) which results to the positive impact of the four statements of mission & vision (MV) dimension of Context factor of B.Ed. programme on principals of colleges of education.
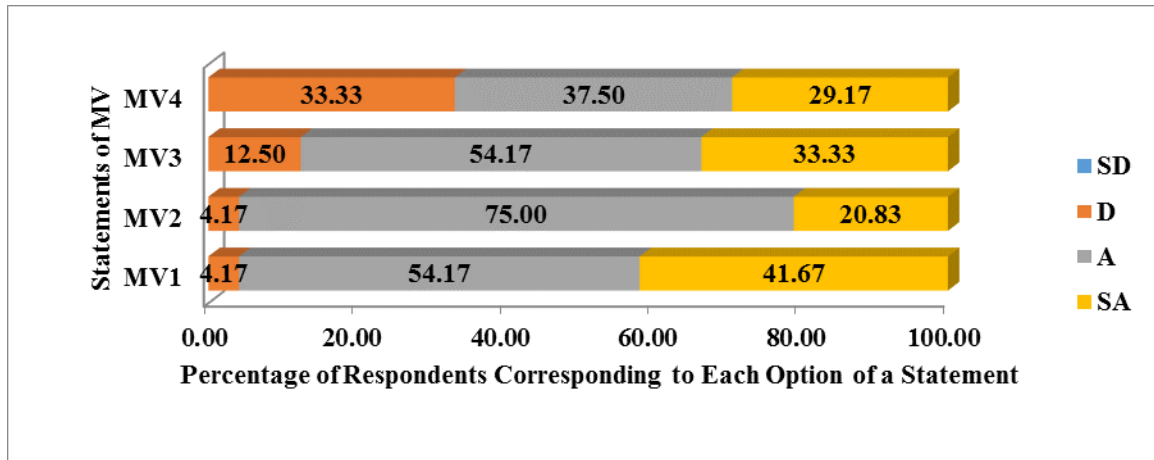
Figure 4.89: Percentage of Responses of Principals Corresponding to Each Option of Mission and Vision Statements

Table 4.104

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Four Statements of Mission & Vision Dimension of Context Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements ⟶			MV_1	MV_2	MV_3	MV_4
↓	N_n ↓ %$_n$↓	$\overline{N_p}$ → %$_p$→	23 95.83	23 95.83	21 87.50	16 66.67
MV_1	1 4.17		**t =4.49****	-	-	-
MV_2	1 4.17		-	**t =4.49****	-	-
MV_3	3 12.50		-	-	**t =3.67****	-
MV_4	16 33.33		-	-	-	**t =1.63**

N_p (%$_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n (%$_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and** α = .01
MV_1 (Develops prospective teachers into a competent professional); MV_2 (Emphasizes on the holistic development of prospective teachers); MV_3 (Develops skills to deal with the diverse problems of class in them); and MV_4 (Develops inclusive competencies to deal with diverse students)

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in table 4.104 and tested against the following null hypothesis:

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H$_o$:   There is no significant difference in the positive and negative impact of four statements of mission & vision dimension of Context factor of B.Ed. programme on principals of colleges of education.

There are significant differences and the non-significant difference between the percentage of principals of colleges of education, who have a positive and negative impact, in three statements (i.e. MV$_1$, MV$_2$, and MV$_3$) and one statement (i.e. MV$_4$) respectively, as the values of t $_{(22)}$ = 4.49, 4.49, 3.67 and 1.63 are significant and non-significant at α = .01 and .05 respectively (table 4.104). Therefore, the three statements (i.e. MV$_1$, MV$_2$, and MV$_3$) have a significantly more positive impact on principals of colleges of education as compared to their negative impact. On the other hand, one statement (i.e. MV$_4$) has no significant difference in its positive and negative impact on principals of colleges of education. Thus, H$_o$ stands not accepted for statements MV$_1$, MV$_2$, and MV$_3$ and accepted for statement MV$_4$ of mission & vision (MV) dimension of Context factor of B.Ed. programme.

4.1.3.8 Statementwise Analysis of Data of Programme Objectives Dimension of Context Factor of Impact of B.Ed. Programme on Principals of Colleges of Education

The synthetic indexes for the four statements of Programme Objectives (PO) dimension of IBP are 3.21, 2.96, 3.08, and 2.92 (table 4.105) as mean values; which indicates that there is a positive impact of the four statements on principals of colleges of education. The arrangement of mean values in descending order of their impact on principals of colleges of education is as follows:

PO$_1$ (3.21) > PO$_3$ (3.08) > PO$_2$ (2.96) > PO$_4$ (2.92)

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement PO$_1$ (Focuses upon the practical aspects of teaching and learning process) have more impact on principals of colleges of education as compared to the other three statements i.e. PO$_3$ (Link school knowledge with community life); PO$_2$ (Emphasizes on rigorous teaching internship practice) and PO$_4$ (Increases employment

opportunities for prospective teachers) as programme objectives (PO) dimension of Context factor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.105 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of four statements of programme objectives dimension of Context factor of B.Ed. programme on principals of colleges of education.

Table 4.105

Means Matrix Showing Significance of Difference in Means of Four Statements of Programme Objectives Dimension of Context Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements ———➔		PO$_1$	PO$_3$	PO$_2$	PO$_4$
	M	3.21	3.08	2.96	2.92
	SD	.66	.58	.75	.78
PO$_1$	r	-	.52**	.19	.12
	t		1.00	1.37	1.50
PO$_3$	r		-	.01	.40
	t			.65	1.07
PO$_2$	r			-	.07
	t				.20
PO$_4$	r				-
	t				

** α = .01 and *α = .05
PO$_1$ (Focuses upon the practical aspects of teaching and learning process); PO$_2$ (Emphasizes on rigorous teaching internship practice); PO$_3$ (Link school knowledge with community life); and PO$_4$ (Increases employment opportunities for prospective teachers)

There are non-significant differences in the impact of the six comparisons between means of responses for the statements PO$_1$ vs PO$_3$; PO$_1$ vs PO$_2$; PO$_1$ vs PO$_4$; PO$_3$ vs PO$_2$; PO$_3$ vs PO$_4$; and PO$_2$ vs PO$_4$, as the values of t $_{(23)}$ = 1.00, 1.37, 1.50, .65, 1.07 and .20 are non-significant at α = .05; (table 4.105). Therefore, the statements PO$_1$ vs PO$_3$; PO$_1$ vs PO$_2$; PO$_1$ vs PO$_4$; PO$_3$ vs PO$_2$; PO$_3$ vs PO$_4$; and PO$_2$ vs PO$_4$ have no significant difference in the impact on principals of colleges of education. Thus, H$_o$ stands accepted for the six

comparisons between means of responses to the statements PO_1 vs PO_3; PO_1 vs PO_2; PO_1 vs PO_4; PO_3 vs PO_2; PO_3 vs PO_4; and PO_2 vs PO_4 of programme objectives (PO) dimension of Context factor of B.Ed. programme.

Based on the percentages of principals of colleges of education corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.90), it is found that the maximum percentage of principals of colleges of education opted the option agree (A) and strongly agree (SA) which results to the positive impact of the four statements of programme objectives (PO) dimension of Context factor of B.Ed. programme on principals of colleges of education.
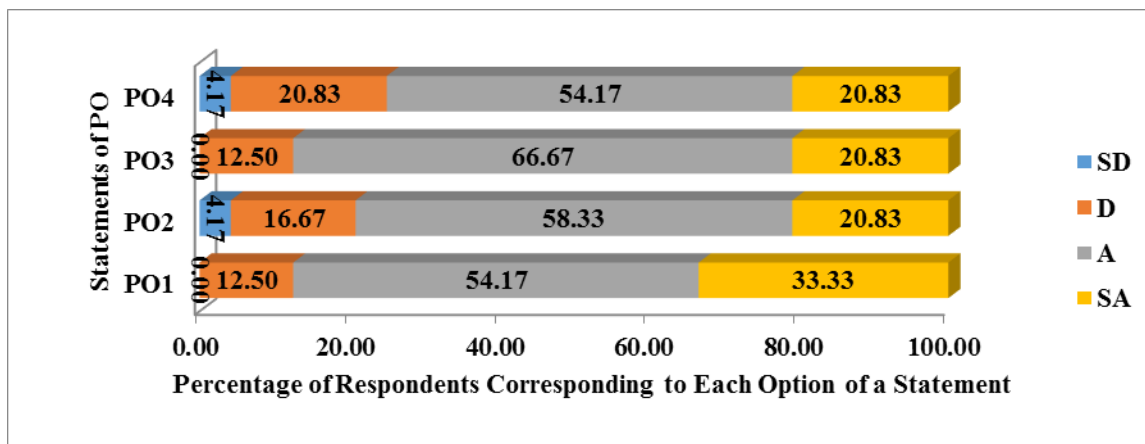
Figure 4.90: Percentage of Responses of Principals Corresponding to Each Option of Programme Objectives Statements

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented above (table 4.106) and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of four statements of programme objectives dimension of Context factor of B.Ed. programme on principals of colleges of education.

There are significant differences between the percentage of principals of colleges of education, who have a positive and negative impact, in all the four statements (i.e. PO_1,

PO$_2$, PO$_3$, and PO$_4$), as the values of t $_{(22)}$ = 3.67, 2.86, 3.67 and 2.45 are significant at α = .01 and .05 respectively (table 4.106).

Table 4.106

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Four Statements of Programme Objectives Dimension of Context Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements ⟶			PO$_1$	PO$_2$	PO$_3$	PO$_4$
↓	N$_n$ ↓ %$_n$↓	N$_p$⟶ %$_p$⟶	21 87.50	19 79.17	21 87.50	18 75.00
PO$_1$	3 12.50		t =3.67**	-	-	-
PO$_2$	5 20.83		-	t =2.86**	-	-
PO$_3$	3 12.50		-	-	t =3.67**	-
PO$_4$	6 25.00		-	-	-	t =2.45*

*N$_p$ (%$_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N$_n$ (%$_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01*
PO$_1$ (Focuses upon the practical aspects of teaching and learning process); PO$_2$ (Emphasizes on rigorous teaching internship practice); PO$_3$ (Link school knowledge with community life); and PO$_4$ (Increases employment opportunities for prospective teachers)

Therefore, all four statements have a significantly more positive impact on principals of colleges of education as compared to their negative impact. Thus, H$_o$ stands not accepted for statements PO$_1$, PO$_2$, PO$_3$, and PO$_4$ of programme objectives (PO) dimension of Context factor of B.Ed. programme.

4.1.3.9 Statementwise Analysis of Data of Academic & Evaluation Input Dimension of Input Factor of Impact of B.Ed. Programme on Principals of Colleges of Education

The synthetic indexes for the five statements of Academic & Evaluation Input (AEI) dimension of the impact of B.Ed. programme are 3.25, 3.25, 3.00, 3.00, and 3.00 (table 4.107) as mean values; which indicates that there is a positive impact of the five

statements on principals of colleges of education. The arrangement of mean values in descending order of their impact on principals of colleges of education is as follows:

$$AEI_1 (3.25) = AEI_2 (3.25) > AEI_3 (3.00) = AEI_4 (3.00) = AEI_5 (3.00)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the two statements i.e. AEI_1 (Prepare an academic calendar for B.Ed. programme) and AEI_2 (Include subject-specific field-based assignments in the curriculum) have more impact on principals of colleges of education as compared to other three statements i.e. AEI_3 (Include diverse projects in the curriculum); AEI_4 (Plan rubrics for evaluation); and AEI_5 (Supervise and evaluate the academic work with the help of technology) as academic & evaluation input (AEI) dimension of Input factor of B.Ed. programme.

Table 4.107

Means Matrix Showing Significance of Difference in Means of Five Statements of Academic & Evaluation Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements ⟶		AEI_1	AEI_2	AEI_3	AEI_4	AEI_5
	M	**3.25**	**3.25**	**3.00**	**3.00**	**3.00**
	SD	.61	.53	.51	.66	.83
AEI_1	**r**	-	**.47***	.28	.00	.34
	t		.00	1.81	1.37	1.45
AEI_2	**r**		-	**.48***	.12	.39
	t			**2.30***	1.54	1.54
AEI_3	**r**			-	.26	.20
	t				.00	.00
AEI_4	**r**				-	.24
	t					.00
AEI_5	**r**					-
	t					

$^{**}\alpha = .01$ and $^*\alpha = .05$

AEI_1 (Prepare an academic calendar for B.Ed. programme); AEI_2 (Include subject-specific field-based assignments in the curriculum); AEI_3 (Include diverse projects in the curriculum); AEI_4 (Plan rubrics for evaluation); and AEI_5 (Supervise and evaluate the academic work with the help of technology)

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.107 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of five statements of academic & evaluation input dimension of Input factor of B.Ed. programme on principals of colleges of education.

There is significant difference in the impact of a comparison between means of responses for the statement AEI_2 over the statements AEI_3, as the value of t $_{(23)}$ = 2.30 is significant at α = .05; and there are non-significant differences in the impact of the nine comparisons between means of responses for the statements AEI_1 vs AEI_2; AEI_1 vs AEI_3;AEI_1 vs AEI_4; AEI_1 vs AEI_5;AEI_2 vs AEI_4; AEI_2 vs AEI_5; AEI_3 vs AEI_4; AEI_3 vs AEI_5;and AEI_4 vs AEI_5, as the values of t $_{(23)}$ = .00, 1.81, 1.37, 1.45, 1.54, 1.54, .00, .00 and .00 are non-significant at α = .05; (table 4.107). Therefore, the higher mean score of the statement AEI_2 (M_{AEI2} = 3.25) indicates that the statement AEI_2 has significantly more impact on principals of colleges of education as compared to the statement AEI_3 (M_{MV3} = 3.00). On the other hand, the statements AEI_1 vs AEI_2; AEI_1 vs AEI_3; AEI_1 vs AEI_4; AEI_1 vs AEI_5; AEI_2 vs AEI_4; AEI_2 vs AEI_5; AEI_3 vs AEI_4; AEI_3 vs AEI_5; and AEI_4 vs AEI_5 have no significant difference in the impact on principals of colleges of education. Thus, H_o stands not accepted for a comparison between means of responses to the statements AEI_2 vs AEI_3 whereas H_o stands accepted for nine comparisons between means of responses to the statements AEI_1 vs AEI_2; AEI_1 vs AEI_3; AEI_1 vs AEI_4; AEI_1 vs AEI_5; AEI_2 vs AEI_4; AEI_2 vs AEI_5; AEI_3 vs AEI_4; AEI_3 vs AEI_5; and AEI_4 vs AEI_5 of academic & evaluation input (AEI) dimension of Input factor of B.Ed. programme.

Based on the percentages of principals of colleges of education corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.91), it is found that the maximum percentage of principals of colleges of education opted the option agree (A) and strongly agree (SA) which results to the positive impact of the five statements of academic & evaluation input (AEI) dimension of Input factor of B.Ed. programme on principals of colleges of education.
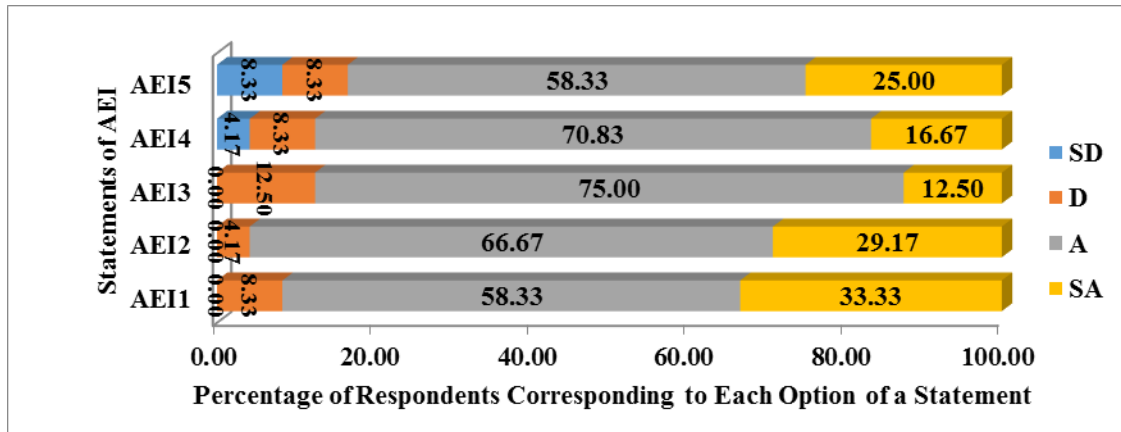
Figure 4.91: Percentage of Responses of Principals Corresponding to Each Option of Academic & Evaluation Input Statements

Table 4.108

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Five Statements of Academic & Evaluation Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements $\longrightarrow$			AEI_1	AEI_2	AEI_3	AEI_4	AEI_5
$\downarrow$	$N_n \downarrow$ %$_n \downarrow$	$N_p \rightarrow$ %$_p \rightarrow$	22 91.67	23 95.83	21 87.50	21 87.50	20 83.33
AEI_1	2 8.33		$t = 4.08^{**}$	-	-	-	-
AEI_2	1 4.17		-	$t = 4.49^{**}$	-	-	-
AEI_3	3 12.50		-	-	$t = 3.67^{**}$	-	-
AEI_4	3 12.50		-	-	-	$t = 3.67^{**}$	-
AEI_5	4 16.67		-	-	-	-	$t = 3.27^{**}$

N_p (%$_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n (%$_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and $^{**} \alpha = .01$

AEI_1 (Prepare an academic calendar for B.Ed. programme); AEI_2 (Include subject-specific field-based assignments in the curriculum); AEI_3 (Include diverse projects in the curriculum); AEI_4 (Plan rubrics for evaluation); and AEI_5 (Supervise and evaluate the academic work with the help of technology)

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in table 4.108 and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of five statements of academic & evaluation input dimension of Input factor of B.Ed. programme on principals of colleges of education.

There are significant differences between the percentage of principals of colleges of education, who have a positive and negative impact, in all the five statements (i.e. AEI_1, AEI_2, AEI_3, AEI_4, and AEI_5), as the values of t $_{(22)}$ = 4.08, 4.49, 3.67, 3.67 and 3.27 are significant at α = .01 (table 4.108). Therefore, all the five statements have a significantly more positive impact on principals of colleges of education as compared to their negative impact. Thus, H_o stands not accepted for statements AEI_1, AEI_2, AEI_3, AEI_4, and AEI_5 of academic & evaluation input (AEI) dimension of Input factor of B.Ed. programme.

4.1.3.10   Statementwise Analysis of Data of Resource Input Dimension of Input Factor of Impact of B.Ed. Programme on Principals of Colleges of Education

The synthetic indexes (for the three statements of Resource Input (RI) dimension of the impact of B.Ed. programme) are 3.17, 3.04, and 3.29 (table 4.109) as mean values; which indicates that there is a positive impact of the three statements on principals of colleges of education. The arrangement of mean values in descending order of their impact on principals of colleges of education is as follows:

$$RI_3 \ (3.29) > RI_1 \ (3.17) > RI_2 \ (3.04)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement RI_3 (Set well equipped learning resource centers/labs as per norms of NCTE) has more impact on principals of colleges of education as compared to other two statements i.e. RI_1 (Ensure availability of essential facilities in the library) and RI_2 (Ensure availability of modern learning facilitates in classrooms) as resource input (RI) dimension of Inputfactor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.109 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of three statements of resource input dimension of Input factor of impact of B.Ed. programme on principals of colleges of education.

Table 4.109

Means Matrix Showing Significance of Difference in Means of Three Statements of Resource Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements ⟶		RI_3	RI_1	RI_2
⟱	M	3.29	3.17	3.04
	SD	.78	.82	.86
RI_3	r	-	.60**	.68**
	t		1.14	2.30*
RI_1	r		-	.54**
	t			1.00
RI_2	r			-
	t			

** α = .01 and *α = .05

RI_1 (Ensure availability of essential facilities in the library); RI_2 (Ensure availability of modern learning facilitates in classrooms); and RI_3 (Set well equipped learning resource centers/labs as per norms of NCTE)

There is a significant difference in the impact of comparison between means of responses for the statement RI_3 over the statement RI_2, as the value of t $_{(23)}$ = 2.30 is significant at α = .05; and there are non-significant differences in the impact of two comparisons between means of responses for the statements RI_3 vs RI_1 and RI_1 vs RI_2, as the values of t $_{(23)}$ = .1.14 and 1.00 are non-significant at α = .05; (table 4.109). Therefore, the higher mean score of the statement RI_3 (M_{RI3} = 3.29) indicates that the statement RI_3 has significantly more impact on principals of colleges of education as compared to the statement RI_2 (M_{RI2} = 3.04). On the other hand, the statements RI_3 vs RI_1 and RI_1 vs RI_2 have no significant difference in the impact on principals of colleges of education. Thus, H_o stands not accepted for a comparison between means of responses to the statements RI_3

vs RI$_2$ whereas H$_o$ stands accepted for the two comparisons between means of responses to the statements RI$_3$ vs RI$_1$ and RI$_1$ vs RI$_2$ of resource input (RI) dimension of Input factor of B.Ed. programme.
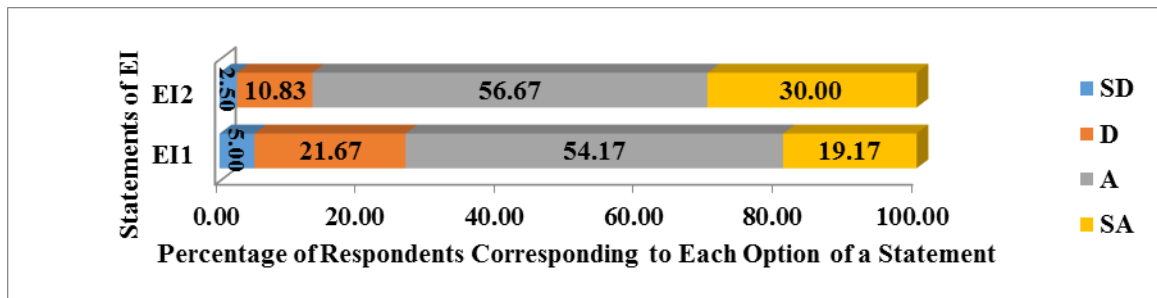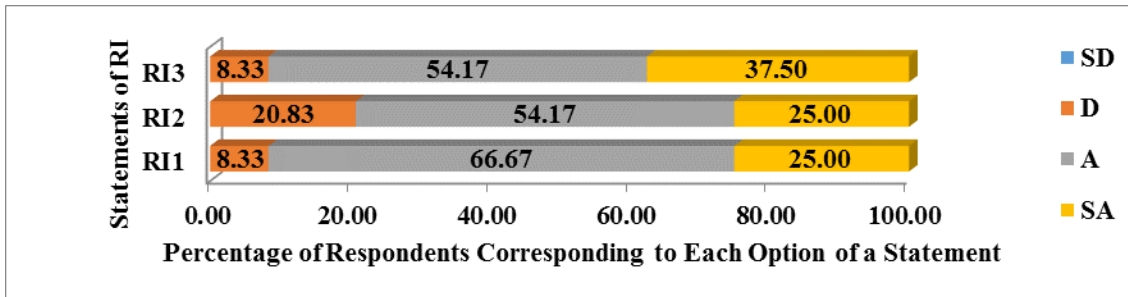

Figure 4.92   Percentage of Responses of Principals Corresponding to Each Option of Resource Input Statements

Based on the percentages of principals of colleges of education corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.92), it is found that the maximum percentage of principals of colleges of education opted the option agree (A) and strongly agree (SA) which results to the positive impact of the five statements of resource input (RI) dimension of Input factor of B.Ed. programme on principals of colleges of education.

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented below (table 4.110) and tested against the following null hypothesis:

H$_o$:   There is no significant difference in the positive and negative impact of five statements of resource input dimension of Input factor of B.Ed. programme on principals of colleges of education.

There are significant differences between the percentage of principals of colleges of education, who have a positive and negative impact, in all the three statements (i.e. RI$_1$, RI$_2$, and RI$_3$), as the values of t $_{(22)}$ = 4.08, 2.86, and 4.08 are significant at α = .01 (table 4.110).

Table 4.110

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Three Statements of Resource Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements ⟶			RI_1	RI_2	RI_3
	N_n ↓ $\%_n$ ↓	N_p ⟶ $\%_p$ ⟶	22 91.67	19 79.17	22 91.67
RI_1	2 8.33		t =4.08**	-	-
RI_2	5 20.33		-	t =2.86**	-
RI_3	2 8.33		-	-	t =4.08**

N_p (%p) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n (%n) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01
RI_1 (Ensure availability of essential facilities in the library); RI_2 (Ensure availability of modern learning facilitates in classrooms); and RI_3 (Set well equipped learning resource centers/labs as per norms of NCTE)

Therefore, all three statements have a significantly more positive impact on principals of colleges of education as compared to their negative impact. Thus, H_o stands not accepted for statements RI_1, RI_2, and RI_3 of resource input (RI) dimension of Input factor of B.Ed. programme.

4.1.3.11   Statementwise Analysis of Data of Training Input Dimension of Input Factor of Impact of B.Ed. Programme on Principals of Colleges of Education

The synthetic indexes for the four statements of Training Input (TI) dimensions of the impact of B.Ed. programme are 3.25, 3.13, 3.17, and 3.29 (table 4.111) as mean values; which indicates that there is a positive impact of the four statements on principals of colleges of education. The arrangement of mean values in descending order of their impact on principals of colleges of education is as follows:

$$TI_4 (3.29) > TI_1 (3.25) > TI_3 (3.17) > TI_2 (3.13)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement TI_4 (Plan rigorous teaching internship of 14 weeks in schools)

has more impact on PTs as compared to the other five statements i.e. TI_1 (Conduct simulated teaching for training in teaching skill); TI_3 (Plan fieldwork of two weeks in schools) and TI_2 (Design teaching internship handbook) as training input (TI) dimension of Inputfactor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.111 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of four statements of training input dimension of Input factor of impact of B.Ed. programme on principals of colleges of education.

Table 4.111

Means Matrix Showing Significance of Difference in Means of Four Statements of Training Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements ⟶ ↓		TI_4	TI_1	TI_3	TI_2
	M	3.29	3.25	3.17	3.13
	SD	.62	.74	.70	.74
TI_4	r	-	.31	.48*	.20
	t		.25	.90	.94
TI_1	r		-	.00	.66**
	t			.40	1.00
TI_3	r			-	.29
	t				.24
TI_2	r				-
	t				

** $\alpha = .01$ and * $\alpha = .05$

TI_1 (Conduct simulated teaching for training in teaching skill); TI_2 (Design teaching internship handbook); TI_3 (Plan fieldwork of two weeks in schools); and TI_4 (Plan rigorous teaching internship of 14 weeks in schools)

There are non-significant differences in the impact of the six comparisons between means of responses for the statements TI_4 vs TI_1; TI_4 vs TI_3; TI_4 vs TI_2; TI_1 vs TI_3; TI_1 vs TI_2; and TI_3 vs TI_2, as the values of $t_{(23)}$ = .25, .90, .94, .40, 1.00 and .24 are non-significant at $\alpha = .05$; (table 4.111). Therefore, the statements TI_4 vs TI_1; TI_4 vs TI_3; TI_4 vs TI_2; TI_1 vs

TI_3; TI_1 vs TI_2; and TI_3 vs TI_2 have no significant difference in the impact on principals of colleges of education. Thus, H_o stands accepted for the six comparisons between means of responses to the statements TI_4 vs TI_1; TI_4 vs TI_3; TI_4 vs TI_2; TI_1 vs TI_3; TI_1 vs TI_2; and TI_3 vs TI_2 of training input (TI) dimension of Input factor of B.Ed. programme.
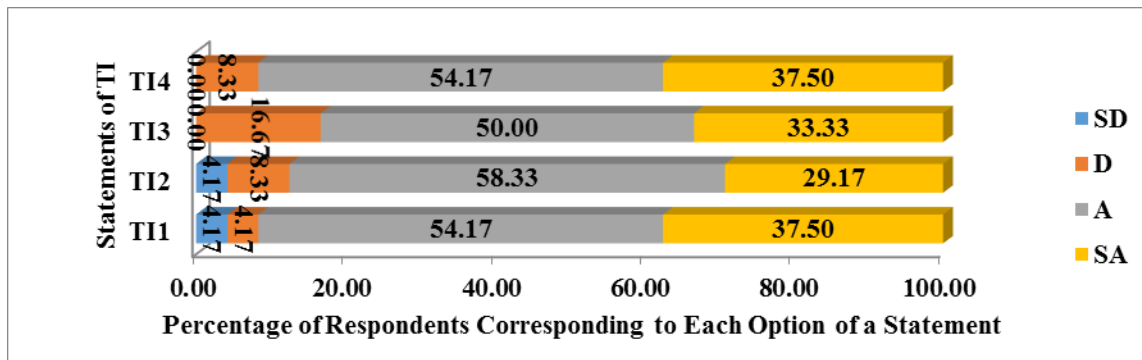
Figure 4.93: **Percentage of Responses of Principals Corresponding to Each Option of Training Input Statements**

Based on the percentages of principals of colleges of education corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.93), it is found that the maximum percentage of principals of colleges of education opted the option agree (A) and strongly agree (SA) which results to the positive impact of the four statements of training input (TI) dimension of Input factor of B.Ed. programme on principals of colleges of education.

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in table 4.112 and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of four statements of training input dimension of Input factor of B.Ed. programme on principals of colleges of education.

There are significant differences between the percentage of principals of colleges of education, who have a positive and negative impact, in all the four statements (i.e. TI_1, TI_2, TI_3, and TI_4), as the values of t $_{(22)}$ = 4.08, 3.67, 3.27 and 4.08 are significant at α = .01 (table 4.112).

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Table 4.112

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Four Statements of Training Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements ⟶			TI_1	TI_2	TI_3	TI_4
↓	N_n ↓ $\%_n$↓	$\frac{N_p}{\%_p}$ ⟶	22 91.67	21 87.50	20 83.33	22 91.67
TI_1	2 8.33		t =4.08**	-	-	-
TI_2	3 12.50		-	t =3.67**	-	-
TI_3	4 16.67		-	-	t =3.27**	-
TI_4	2 8.33		-	-	-	t =4.08*

*N_p ($\%_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n ($\%_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01*
TI_1 (Conduct simulated teaching for training in teaching skill); TI_2 (Design teaching internship handbook); TI_3 (Plan fieldwork of two weeks in schools); and TI_4 (Plan rigorous teaching internship of 14 weeks in schools)

Therefore, all four statements have a significantly more positive impact on principals of colleges of education as compared to their negative impact. Thus, H$_o$ stands not accepted for statements TI_1, TI_2, TI_3, and TI_4 of training input (TI) dimension of Input factor of B.Ed. programme.

4.1.3.12   Statementwise Analysis of Data of Professional Input Dimension of Input Factor of Impact of B.Ed. Programme on Principals of Colleges of Education

The synthetic indexes for the three statements of Professional Input (PI) dimension of the impact of B.Ed. programme are 3.38, 3.21, and 3.00 (table 4.113) as mean values; which indicates that there is a positive impact of the three statements on principals of colleges of education. The arrangement of mean values in descending order of their impact on principals of colleges of education is as follows:

PI$_1$ (3.38) > PI$_2$ (3.21) > PI$_3$ (3.00)

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement PI_1 (Organize different professional activities for the enhancement of professional capacities) has more impact on principals of colleges of education as compared to the statement PI_2 (Establish collaborative partnership with community & NGOs) and PI_3 (Plan extra input for state/center level teacher eligibility test) as professional input (PI) dimension of Inputfactor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented below (table 4.113) and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of three statements of professional input dimension of Input factor of B.Ed. programme on principals of colleges of education.

Table 4.113

Means Matrix Showing Significance of Difference in Means of Three Statements of Professional Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements ⟶		PI_1	PI_2	PI_3
↓	M	**3.38**	**3.21**	**3.00**
	SD	.71	.66	.83
PI_1	r	-	.29	**.44***
	t		1.00	**2.23***
PI_2	r		-	.40
	t			1.23
PI_3	r			-
	t			

$^{**} α = .01$ and $^* α = .05$

PI_1 (Organize different professional activities for the enhancement of professional capacities); PI_2 (Establish collaborative partnership with community & NGOs); and PI_3 (Plan extra input for state/center level teacher eligibility test)

There is a significant difference in the impact of comparison between means of responses for the statement PI_1 over the statements PI_3, as the value of t $_{(23)}$ = 2.23 is significant at α = .05; and there are non-significant differences in the impact of the two comparisons between means of responses for the statements PI_1 vs PI_2 and PI_2 vs PI_3, as the values of t

$_{(23)}$ = 1.00 and 1.23 are non-significant at α = .05; (table 4.113). Therefore, the higher mean score of the statement PI_1 (M_{PI1} = 3.38) indicates that the statement PI_1 has significantly more impact on principals of colleges of education as compared to the statement PI_3 (M_{PI3} = 3.00). On the other hand, the statements PI_1 vs PI_2 and PI_2 vs PI_3 have no significant difference in the impact on principals of colleges of education. Thus, H_o stands not accepted for a comparison between means of responses to the statements PI_1 vs PI_3; whereas H_o stands accepted for the two comparisons between means of responses to the statements PI_1 vs PI_2 and PI_2 vs PI_3 of professional input (PI) dimension of Input factor of B.Ed. programme.

Based on the percentages of principals of colleges of education corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.94), it is found that the maximum percentage of principals of colleges of education opted the option agree (A) and strongly agree (SA) which results to the positive impact of the three statements of professional input (PI) dimension of Input factor of B.Ed. programme on principals of colleges of education.
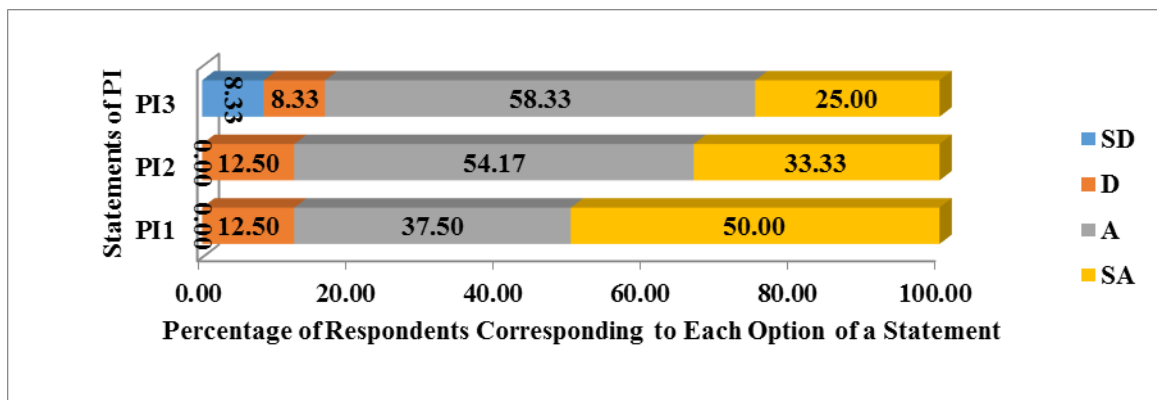
Figure 4.94:   Percentage of Responses of Principals Corresponding to Each Option of Professional InputStatements

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in table 4.114 and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of three statements of professional input dimension of Input factor of B.Ed. Programme on principals of colleges of education.

Table 4.114

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Three Statements of Professional Input Dimension of Input Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements ⟶			PI_1	PI_2	PI_3
↓	N_n ↓ $\%_n$ ↓	N_p ⟶ $\%_p$ ⟶	21 87.50	21 87.50	20 83.33
PI_1	3 12.50		t =3.67**	-	-
PI_2	3 12.50		-	t =3.67**	-
PI_3	4 16.67		-	-	t =3.27**

*N_p ($\%_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n ($\%_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01*
PI_1 (Organize different professional activities for the enhancement of professional capacities); PI_2 (Establish collaborative partnership with community & NGOs); and PI_3 (Plan extra input for state/center level teacher eligibility test)

There are significant differences between the percentage of principals of colleges of education, who have a positive and negative impact, in the three statements (i.e. PI_1, PI_2, and PI_3), as the values of t $_{(22)}$ = 3.67, 3.67, and 3.27 are significant at α = .01 (table 4.114). Therefore, all three statements have a significantly more positive impact on principals of colleges of education as compared to their negative impact. Thus, H_o stands not accepted for statements PI_1, PI_2, and PI_3 of professional input (PI) dimension of Input factor of B.Ed. programme.

4.1.3.13 Statementwise Analysis of Data of Administrative & Academic Process Dimension of Process Factor of Impact of B.Ed. Programme on Principals of Colleges of Education

The synthetic indexes for the four statements of Administrative & Academic Process (AAP) dimension of the impact of B.Ed. programme is 3.25, 3.42, 3.17, and 3.29 (table

4.115) as mean values; which indicates that there is a positive impact of the four statements on principals of colleges of education. The arrangement of mean values in descending order of their impact on principals of colleges of education is as follows:

$$AAP_2\ (3.42) > AAP_4\ (3.29) > AAP_1\ (3.25) > AAP_3\ (3.17)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement AAP_2 (Organize different academic and non-academic activities as per academic calendar) has more impact on principals of colleges of education as compared to the other three statements i.e. AAP_4 (Utilize resource centers for developing skills in pupil teachers); AAP_1 (Recruit required number of teacher educators); and AAP_3 (Plan assignments as case studies and small projects) as administrative & academic process (AAP) dimension of Process factor of B.Ed. programme.

Table 4.115

Means Matrix Showing Significance of Difference in Means of Four Statements of Administrative & Academic Process Dimension of Process Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements ⟶ ↓		AAP_2	AAP_4	AAP_1	AAP_3
	M	3.20	3.09	3.06	2.93
	SD	.72	.68	.72	.85
AAP_2	r	-	$.83^{**}$	$.66^{**}$	$.67^{**}$
	t		1.81	1.45	2.02^{*}
AAP_4	r		-	$.67^{**}$	$.66^{**}$
	t			.37	1.00
AAP_1	r			-	$.43^{*}$
	t				.49
AAP_3	r				-
	t				

$^{**}\alpha = .01$

AAP_1 (Recruit required number of teacher educators); AAP_2 (Organize different academic and non-academic activities as per academic calendar); AAP_3 (Plan assignments as case studies and small projects); and AAP_4 (Utilize resource centers for developing skills in pupil teachers)

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.115 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of four statements of administrative & academic process dimension of Process factor of B.Ed. programme on principals of colleges of education.

There is significant difference in the impact of a comparison between means of responses for the statement AAP_2 over the statements AAP_3, as the value of t $_{(23)}$ = 2.02 is significant at α = .05; and there are non-significant differences in the impact of the five comparisons between means of responses for the statements AAP_2 vs AAP_4;AAP_2 vs AAP_1;AAP_4 vs AAP_1;AAP_4 vs AAP_3;and AAP_1 vs AAP_3, as the values of t $_{(23)}$ = 1.81, 1.45, .37, 1.00 and .49 are non-significant at α = .05; (table 4.115). Therefore, the higher mean score of the statement AAP_2 (M_{AAP2} = 3.20) indicates that the statement AAP_2 has significantly more impact on principals of colleges of education as compared to the statement AAP_3 (M_{AAP3} = 2.93). On the other hand, the statements AAP_2 vs AAP_4; AAP_2 vs AAP_1; AAP_4 vs AAP_1; AAP_4 vs AAP_3; and AAP_1 vs AAP_3 have no significant difference in the impact on principals of colleges of education. Thus, H_o stands not accepted for a comparison between means of responses to the statements AAP_2 vs AAP_3 whereas H_o stands accepted for the five comparisons between means of responses to the statements AAP_2 vs AAP_4; AAP_2 vs AAP_1; AAP_4 vs AAP_1; AAP_4 vs AAP_3; and AAP_1 vs AAP_3 of the administrative & academic process (AAP) dimension of Process factor of B.Ed. programme.
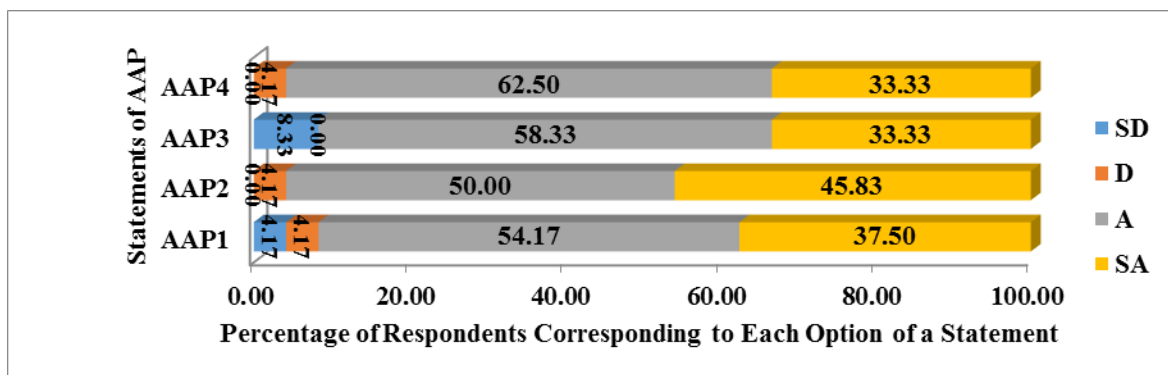
Figure 4.95:   Percentage of Responses of Principals Corresponding to Each Option of Administrative & Academic Process Statements

Based on the percentages of principals of colleges of education corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.95), it is found that the maximum percentage of principals of colleges of education opted the option agree (A) and strongly agree (SA) which results to the positive impact of the four statements of administrative & academic process (AAP) dimension of Process factor of B.Ed. programme on principals of colleges of education. The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in table 4.116 and tested against the following null hypothesis:

H$_o$: There is no significant difference in the positive and negative impact of four statements of administrative & academic process dimension of Process factor of B.Ed. programme on principals of colleges of education.

Table 4.116

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Four Statements of Administrative & Academic Process Dimension of Process Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements ⟶			AAP$_1$	AAP$_2$	AAP$_3$	AAP$_4$
↓	N$_n$ ↓ %$_n$↓	N$_p$ ⟶ %$_p$	22 91.67	23 95.83	22 91.67	23 95.83
AAP$_1$	2 8.33		t =4.08**	-	-	-
AAP$_2$	1 4.17		-	t =4.49**	-	-
AAP$_3$	2 8.33		-	-	t =4.08**	-
AAP$_4$	1 4.17		-	-	-	t =4.49**

*N$_p$ (%$_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N$_n$ (%$_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01*
AAP$_1$ (Recruit required number of teacher educators); AAP$_2$ (Organize different academic and non-academic activities as per academic calendar); AAP$_3$ (Plan assignments as case studies and small projects); and AAP$_4$ (Utilize resource centers for developing skills in pupil teachers)

There are significant differences between the percentage of principals of colleges of education, who have a positive and negative impact, in all the four statements (i.e. AAP_1, AAP_2, AAP_3, and AAP_4), as the values of t $_{(22)}$ = 4.08, 4.49, 4.08 and 4.49 are significant at α = .01 (table 4.116). Therefore, all four statements have a significantly more positive impact on principals of colleges of education as compared to their negative impact. Thus, H_o stands not accepted for statements AAP_1, AAP_2, AAP_3, and AAP_4 of administrative & academic process (AAP) dimension of Process factor of B.Ed. programme.

4.1.3.14 **Statementwise Analysis of Data of Professional Process Dimension of Process Factor of Impact of B.Ed. Programme on Principals of Colleges of Education**

The synthetic indexes for the four statements of Professional Process (PP) dimension of the impact of B.Ed. programme are 3.17, 3.00, 3.38, and 3.08 (table 4.117) as mean values; which indicates that there is a positive impact of the four statements on principals of colleges of education. The arrangement of mean values in descending order of their impact on principals of colleges of education is as follows:

$$PP_3\ (3.38) > PP_1\ (3.17) > PP_4\ (3.08) > PP_2\ (3.00)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement PP_3 (Organize workshops and seminars by the expert professionals of the concerned field) has more impact on PTs as compared to the other three statements i.e. PP_1 (Organize community projects in collaboration with NGOs); PP_4 (Organize regular sessions of Teacher Eligibility Test); and PP_2 (Organize service-learning programmes as per the need of community) as the professional process (PP) dimension of Process factor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.117 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of four statements of professional process dimension of Process factor of B.Ed. programme on principals of colleges of education.

Table 4.117

Means Matrix Showing Significance of Difference in Means of Four Statements of Professional Process Dimension of Process Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements ⟶		PP_3	PP_1	PP_4	PP_2
	M	**3.38**	**3.17**	**3.08**	**3.03**
	SD	.71	.56	.72	.66
PP_3	r	-	.05	.19	.28
	t		1.16	1.57	**2.23***
PP_1	r		-	.39	**.70***
	t			.57	1.70
PP_4	r			-	.18
	t				.46
PP_2	r				-
	t				

** $\alpha = .01$

PP_1 (Organize community projects in collaboration with NGOs); PP_2 (Organize service-learning programmes as per the need of community); PP_3 (Organize workshops and seminars by the expert professionals of the concerned field); and PP_4 (Organize regular sessions of Teacher Eligibility Test)

There is a significant difference in the impact of comparison between means of responses for the statement PP_3 over the statement PP_2, as the value of t $_{(23)}$ = 2.23 is significant at α = .05; and there are non-significant differences in the impact of the five comparisons between means of responses for the statements PP_3 vs PP_1; PP_3 vs PP_4; PP_1 vs PP_4; PP_1 vs PP_2; and PP_4 vs PP_2, as the values of t $_{(23)}$ = 1.16, 1.57, .57, 1.70 and .46 are non-significant at α = .05; (table 4.117). Therefore, the higher mean score of the statement PP_3 (M_{PP3} = 3.38) indicates that the statement PP_3 has significantly more impact on principals of colleges of education as compared to the statement PP_2 (M_{PP2} = 3.03). On the other hand, the statements PP_3 vs PP_1; PP_3 vs PP_4; PP_1 vs PP_4; PP_1 vs PP_2; and PP_4 vs PP_2 have no significant difference in the impact on principals of colleges of education. Thus, H_o stands not accepted for a comparison between means of responses to the statements PP_3 vs PP_2 whereas H_o stands accepted for five comparisons between means of responses to the statements PP_3 vs PP_1; PP_3 vs PP_4; PP_1 vs PP_4; PP_1 vs PP_2; and PP_4 vs PP_2 of professional process (PP) dimension of Process factor of B.Ed. programme.

Based on the percentages of principals of colleges of education corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.96), it is found that the maximum percentage of principals of colleges of education opted the option agree (A) and strongly agree (SA) which results to the positive impact of the four statements of the professional process (PP) dimension of Process factor of B.Ed. programme on principals of colleges of education.
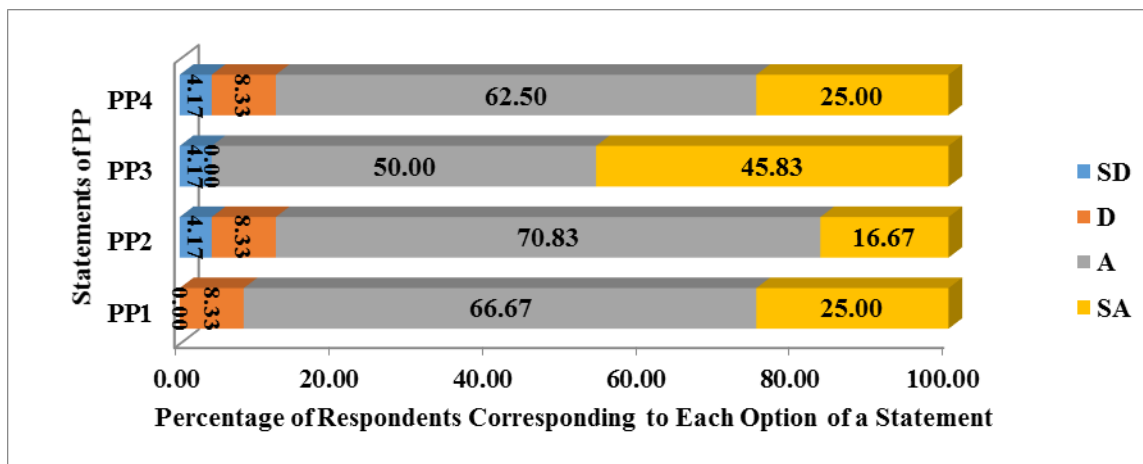
Figure 4.96: **Percentage of Responses of Principals Corresponding to Each Option of Professional Process Statements**

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in the table 4.118 and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of four statements of professional process dimension of Process factor of B.Ed. programme on principals of colleges of education.

There are significant differences between the percentage of principals of colleges of education, who have a positive and negative impact, in all the four statements (i.e. PP_1, PP_2, PP_3, and PP_4), as the values of t $_{(22)}$ = 4.08, 3.67, 4.49 and 3.67 are significant at α = .01 (table 4.118).

Table 4.118

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Four Statements of Professional Process Dimension of Process Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements ⟶			PP$_1$	PP$_2$	PP$_3$	PP$_4$
	N$_n$ ↓ %$_n$↓	N$_p$ ⟶ %$_p$	22 91.67	21 87.50	23 95.83	21 87.50
PP$_1$	2 8.33		t =4.08**	-	-	-
PP$_2$	3 12.50		-	t =3.67**	-	-
PP$_3$	1 4.17		-	-	t =4.49**	-
PP$_4$	3 12.50		-	-	-	t =3.67**

*N$_p$ (%$_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N$_n$ (%$_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01*
PP$_1$ (Organize community projects in collaboration with NGOs); PP$_2$ (Organize service-learning programmes as per the need of community); PP$_3$ (Organize workshops and seminars by the expert professionals of the concerned field); and PP$_4$ (Organize regular sessions of Teacher Eligibility Test)

Therefore, all four statements have a significantly more positive impact on principals of colleges of education as compared to their negative impact. Thus, H$_o$ stands not accepted for statements PP$_1$, PP$_2$, PP$_3$, and PP$_4$ of the professional process (PP) dimension of Process factor of B.Ed. programme.

4.1.3.15   Statementwise Analysis of Data of Training & Evaluation Process dimension of Process Factor of Impact of B.Ed. Programme on Principals of Colleges of Education

The synthetic indexes for the eight statements of Training & Evaluation Process (TEP) dimension of the impact of B.Ed. programme are 3.33, 3.13, 3.42, 3.25, 3.42, 3.21, 3.38, and 3.04 (table 4.119) as mean values; which indicates that there is a positive impact of the eight statements on principals of colleges of education. The arrangement of mean values in descending order of their impact on principals of colleges of education is as follows:

$$TEP_3 (3.42) = TEP_5 (3.42) > TEP_7 (3.38) > TEP_1 (3.33) > TEP_4 (3.25) > TEP_6 (3.21) >$$
$$TEP_2 (3.13) > TEP_8 (3.04)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the two statements i.e. TEP_3 (Organize of simulated teaching for developing teaching skills) and TEP_5 (Organize teaching internship in different types of schools) have more impact on principals of colleges of education as compared to other six statements i.e. TEP_7 (Supervise teaching internship with the help of teacher educators and school teachers); TEP_1 (Use feedback from community members and other stakeholders for further programme improvements); TEP_4 (Organize two weeks field visit programme for understanding school system); TEP_6 (Organize of rigorous teaching internship for developing professional competencies); TEP_2 (Conduct of remedial teaching sessions for below-average pupil teachers); and TEP_8 (Use rubrics and latest evaluation techniques for evaluating the work of pupil teachers) as training & evaluation process (TEP) dimension of Process factor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.119 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of eight statements of training & evaluation process dimension of Process factor of B.Ed. programme on principals of colleges of education.

Table 4.119

Means Matrix Showing Significance of Difference in Means of Eight Statements of the Training & Evaluation Process Dimension of Product Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements ⟶		TEP$_3$	TEP$_5$	TEP$_7$	TEP$_1$	TEP$_4$	TEP$_6$	TEP$_2$	TEP$_8$
	M	3.42	3.42	3.38	3.33	3.25	3.21	3.13	3.04
	SD	.58	.72	.58	.76	.68	.59	.61	.69
TEP$_3$	r	-	.40	.42*	.85**	.61**	.37**	.34	.28
	t		.00	.33	1.00	1.45	1.55	2.07*	2.39*
TEP$_5$	r		-	.45*	.53**	.49*	.30	.27	.75**
	t			.30	.57	1.16	1.31	1.77	3.72**
TEP$_7$	r			-	.40	.42*	.40	.36	.51*
	t				.27	.90	1.28	1.81	2.56*
TEP$_1$	r				-	.59**	.42*	.37	.47*
	t					.62	.83	1.31	1.90
TEP$_4$	r					-	.63**	.55**	.44*
	t						.37	1.00	1.42
TEP$_6$	r						-	.77**	.41*
	t							1.00	1.16
TEP$_2$	r							-	.30
	t								.53
TEP$_8$	r								-
	t								

** α = .01 and* α = .05

TEP$_1$ (Use feedback from community members and other stakeholders for further programme improvements); TEP$_2$ (Conduct of remedial teaching sessions for below-average pupil teachers); TEP$_3$ (Organize of simulated teaching for developing teaching skills); TEP$_4$ (Organize two weeks field visit programme for understanding school system); TEP$_5$ (Organize teaching internship in different types of schools); TEP$_6$ (Organize of rigorous teaching internship for developing professional competencies); TEP$_7$ (Supervise teaching internship with the help of teacher educators and school teachers); and TEP$_8$ (Use rubrics & latest evaluation techniques for evaluating the work of pupil teachers)

There are significant differences in the impact of the four comparisons between means of responses for the statement TEP_3 over the statements TEP_2 and TEP_8; statements TEP_7 and TEP_5 over the statement TEP_8 as the values of t $_{(23)}$ = 2.07, 2.39, 2.56, and 3.72 is significant at α = .05 and .01; and there are non-significant differences in the impact of the twenty-four comparisons between means of responses for the statements TEP_3 vs TEP_5; TEP_3 vs TEP_7; TEP_3 vs TEP_1; TEP_3 vs TEP_4; TEP_3 vs TEP_6; TEP_5 vs TEP_7; TEP_5 vs TEP_1; TEP_5 vs TEP_4; TEP_5 vs TEP_6; TEP_5 vs TEP_2; TEP_7 vs TEP_1; TEP_7 vs TEP_4; TEP_7 vs TEP_6; TEP_7 vs TEP_2; TEP_1 vs TEP_4; TEP_1 vs TEP_6; TEP_1 vs TEP_2; TEP_1 vs TEP_8; TEP_4 vs TEP_6; TEP_4 vs TEP_2; TEP_4 vs TEP_8; TEP_6 vs TEP_2; TEP_6 vs TEP_8 and TEP_2 vs TEP_8, as the values of t $_{(23)}$ = . 00, .33, 1.00, 1.45, 1.55, .30, .57, 1.16, 1.31, 1.77, .27, .90, 1.28, 1.81, .62, .83, 1.31, 1.90, .37, 1.00, 1.42, 1.00, 1.16 and .53 are non-significant at α = .05; (table 4.119). Therefore, the statement TEP_3 (M_{TEP2}= 3.42) has significantly moreimpact on principals of colleges of education as compared to the statements TEP_2 (M_{TEP2} = 3.13) and TEP_8 (M_{TEP8} = 3.04); and statements TEP_5 (M_{TEP5} = 3.42) and TEP_7 (M_{TEP7} = 3.38) have significantly moreimpact on the principals of colleges of education as compared to the statement TEP_8 (M_{TEP8} = 3.04). On the other hand, the statements TEP_3 vs TEP_5; TEP_3 vs TEP_7; TEP_3 vs TEP_1; TEP_3 vs TEP_4; TEP_3 vs TEP_6; TEP_5 vs TEP_7; TEP_5 vs TEP_1; TEP_5 vs TEP_4; TEP_5 vs TEP_6; TEP_5 vs TEP_2; TEP_7 vs TEP_1; TEP_7 vs TEP_4; TEP_7 vs TEP_6; TEP_7 vs TEP_2; TEP_1 vs TEP_4; TEP_1 vs TEP_6; TEP_1 vs TEP_2; TEP_1 vs TEP_8; TEP_4 vs TEP_6; TEP_4 vs TEP_2; TEP_4 vs TEP_8; TEP_6 vs TEP_2; TEP_6 vs TEP_8 and TEP_2 vs TEP_8 have no significant difference in the impact on principals of colleges of education. Thus, H_o stands not accepted for the four comparisons between means of responses to the statements TEP_3 vs TEP_2; TEP_3 vs TEP_8; TEP_5 vs TEP_8; and TEP_7 vs TEP_8; whereas H_o stands accepted for the twenty-four comparisons between means of responses to the statements TEP_3 vs TEP_5; TEP_3 vs TEP_7; TEP_3 vs TEP_1; TEP_3vs TEP_4; TEP_3 vs TEP_6; TEP_5 vs TEP_7; TEP_5 vs TEP_1; TEP_5 vs TEP_4; TEP_5 vs TEP_6; TEP_5 vs TEP_2; TEP_7 vs TEP_1; TEP_7 vs TEP_4; TEP_7 vs TEP_6; TEP_7 vs TEP_2; TEP_1 vs TEP_4; TEP_1 vs TEP_6; TEP_1 vs TEP_2; TEP_1 vs TEP_8; TEP_4 vs TEP_6; TEP_4 vs

TEP$_2$; TEP$_4$ vs TEP$_8$; TEP$_6$ vs TEP$_2$; TEP$_6$ vs TEP$_8$ and TEP$_2$ vs TEP$_8$ of training & evaluation process (TEP) dimension of Process factor of B.Ed. programme.
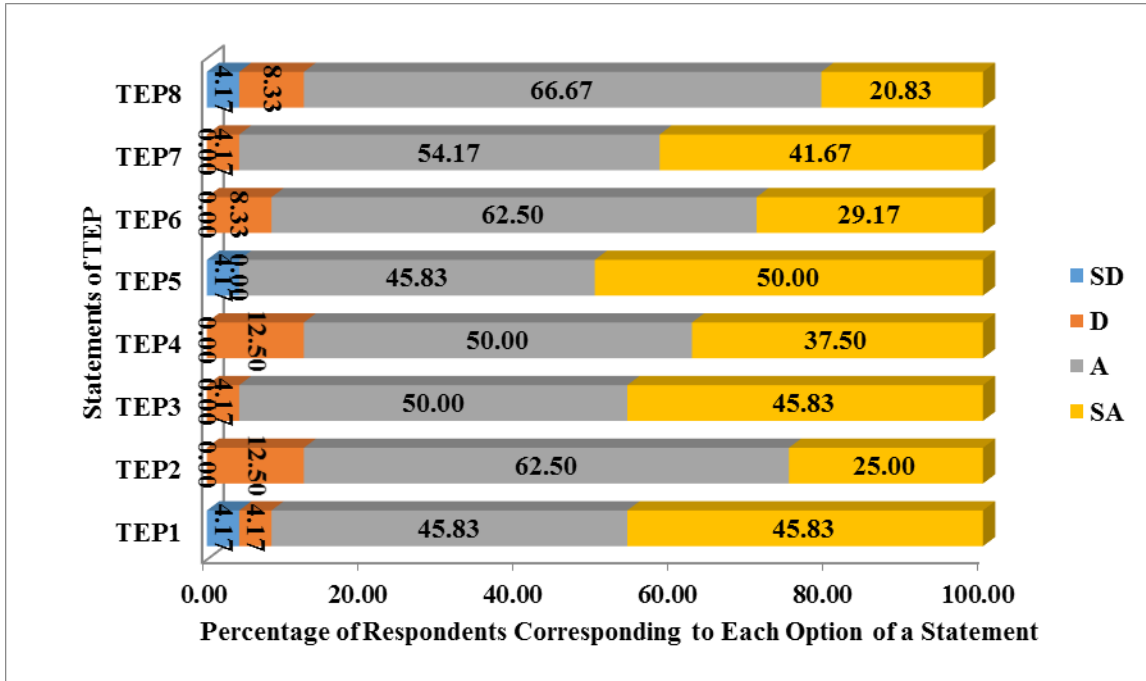
Figure 4.97: **Percentage of Responses of Principals Corresponding to Each Option of Training & Evaluation Process Statements**

Based on the percentages of principals of colleges of education corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.97), it is found that the maximum percentage of principals of colleges of education opted the option agree (A) and strongly agree (SA) which results to the positive impact of the four statements of training & evaluation process (TEP) dimension of Process factor of B.Ed. programme on principals of colleges of education.

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in table 4.120 and tested against the following null hypothesis:

H$_o$: There is no significant difference in the positive and negative impact of eight statements of training & evaluation process dimension of Process factor of B.Ed. programme on principals of colleges of education.

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Table 4.120

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Eight Statements of Training & Evaluation Process Dimension of Process Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements →		N_p→ $\%_p$	TEP_1	TEP_2	TEP_3	TEP_4	TEP_5	TEP_6	TEP_7	TEP_8
	N_n ↓ $\%_n$ ↓		22 91.67	21 87.50	23 95.83	21 87.50	23 95.83	22 91.67	23 93.85	21 87.50
TEP_1	2 8.33		t =4.08**	-	-	-	-	-	-	-
TEP_2	3 12.50		-	t =3.67**	-	-	-	-	-	-
TEP_3	1 4.17		-	-	t =4.49**	-	-	-	-	-
TEP_4	3 12.50		-	-	-	t =3.67**	-	-	-	-
TEP_5	1 4.17		-	-	-	-	t =4.49**	-	-	-
TEP_6	2 8.33		-	-	-	-	-	t =4.08**	-	-
TEP_7	1 4.17		-	-	-	-	-	-	t =4.49**	-
TEP_8	3 12.50		-	-	-	-	-	-	-	t =3.67**

N_p ($\%_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n ($\%_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01

TEP_1 (Use feedback from community members and other stakeholders for further programme improvements); TEP_2 (Conduct of remedial teaching sessions for below-average PTs); TEP_3 (Organize of simulated teaching for developing teaching skills); TEP_4 (Organize two weeks field visit programme for understanding school system); TEP_5 (Organize teaching internship in different types of schools); TEP_6 (Organize of rigorous teaching internship for developing professional competencies); TEP_7 (Supervise teaching internship with the help of teacher educators and school teachers); and TEP_8 (Use rubrics & latest evaluation techniques for evaluating the work of pupil teachers)

There are significant differences between the percentage of principals of colleges of education, who have a positive and negative impact, in all the eight statements (i.e. TEP_1, TEP_2, TEP_3, TEP_4, TEP_5, TEP_6, TEP_7, and TEP_8), as the values of t $_{(22)}$ = 4.08, 3.67, 4.49, 3.67, 4.49, 4.08, 4.49 and 3.67 are significant at α = .01 (table 4.120). Therefore, all eight statements have a significantly more positive impact on the principals of colleges of education as compared to their negative impact. Thus, H_o stands not accepted for statements TEP_1, TEP_2, TEP_3, TEP_4, TEP_5, TEP_6, TEP_7, and TEP_8 of training & evaluation process (TEP) dimension of Process factor of B.Ed. programme.

4.1.3.16   Statementwise Analysis of Data of Administrative Product Dimension of Product Factor of Impact of B.Ed. Programme on Principals of Colleges of Education

The synthetic indexes for the five statements of Administrative Product (ADPr) dimension of the impact of B.Ed. programme are 2.54, 2.67, 3.04, 3.00, and 3.33 (table 4.121) as mean values; which indicates that there is a positive impact of the five statements on principals of colleges of education. The arrangement of mean values in descending order of their impact on principals of colleges of education is as follows:

$$ADPr_5 (3.33) > ADPr_3 (3.04) > ADPr_4 (3.00) > ADPr_2 (2.67) > ADPr_1 (2.54)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement $ADPr_5$ (Increased my academic responsibilities) has more impact on principals of colleges of education as compared to the other six statements i.e. $ADPr_3$ (Improved my administrative skills); $ADPr_4$ (Increased my administrative workload); $ADPr_2$ (Increased the focus on teacher requirement) and $ADPr_1$ (Increased the focus on getting admissions) as administrative product (ADPr) dimension of Product factor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in table 4.121 and tested against the following null hypothesis:

H$_0$: There is no significant difference in the impact of five statements of administrative product dimension of Product factor of B.Ed. programme on principals of colleges of education.

Table 4.121

Means Matrix Showing Significance of Difference in Means of Five Statements of Administrative Product Dimension of Product Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements→		ADPr$_5$	ADPr$_3$	ADPr$_4$	ADPr$_2$	ADPr$_1$
	M	**3.33**	**3.04**	**3.00**	**2.67**	**2.54**
	SD	.48	.69	.72	.82	.93
ADPr$_5$	r	-	.22	- .13	**- .04**	- .23
	t		1.90	1.78	**3.39****	**3.40****
ADPr$_3$	r		-	**.44***	**.49***	- .04
	t			.27	**2.39***	**2.08***
ADPr$_4$	r			-	**.44***	.07
	t				2.00	1.97
ADPr$_2$	r				-	**.48***
	t					.68
ADPr$_1$	r					-
	t					

$^{**}\alpha = .01$ and $^{*}\alpha = .05$

ADPr$_1$ (Increased the focus on getting admissions); ADPr$_2$ (Increased the focus on teacher requirement); ADPr$_3$ (Improved my administrative skills); ADPr$_4$ (Increased my administrative workload); and ADPr$_5$ (Increased my academic responsibilities)

There are significant differences in the impact of the four comparisons between means of responses for the statements ADPr$_5$ and ADPr$_3$ over the statements ADPr$_2$ and ADPr$_1$, as the values of t $_{(23)}$ = 3.39, 3.40, 2.39 and 2.08 are significant at α = .01 and .05; and there are non-significant differences in the impact of the six comparisons between means of responses for the statements ADPr$_5$ vs ADPr$_3$; ADPr$_5$ vs ADPr$_4$; ADPr$_3$ vs ADPr$_4$; ADPr$_4$ vs ADPr$_2$; ADPr$_4$ vs ADPr$_1$; and ADPr$_2$ vs ADPr$_1$, as the values of t $_{(23)}$ = 1.90, 1.78, .27, 2.00, 1.97 and .68 are non-significant at α = .05; (table 4.121). Therefore, the higher mean score of the statements ADPr$_5$ (M$_{ADPr5}$ = 3.33) and ADPr$_3$ (M$_{ADPr3}$ = 3.04) indicates that the statements ADPr$_5$ and ADPr$_3$ have significantly more impact on principals of

colleges of education as compared to the statements $ADPr_2$ (M_{ADPr2} = 2.67) and $ADPr_1$ (M_{ADPr1} = 2.54). On the other hand, the statements $ADPr_5$ vs $ADPr_3$; $ADPr_5$ vs $ADPr_4$; $ADPr_3$ vs $ADPr_4$; $ADPr_4$ vs $ADPr_2$; $ADPr_4$ vs $ADPr_1$; and $ADPr_2$ vs $ADPr_1$ have no significant difference in the impact on principals of colleges of education. Thus, H_o stands not accepted for the four comparisons between means of responses to the statements $ADPr_5$ vs $ADPr_2$; $ADPr_5$ vs $ADPr_1$; $ADPr_3$ vs $ADPr_2$; and $ADPr_3$ vs $ADPr_1$ whereas H_o stands accepted for the six comparisons between means of responses to the statements $ADPr_5$ vs $ADPr_3$; $ADPr_5$ vs $ADPr_4$; $ADPr_3$ vs $ADPr_4$; $ADPr_4$ vs $ADPr_2$; $ADPr_4$ vs $ADPr_1$; and $ADPr_2$ vs $ADPr_1$ of the administrative product (ADPr) dimension of Product factor of B.Ed. programme.
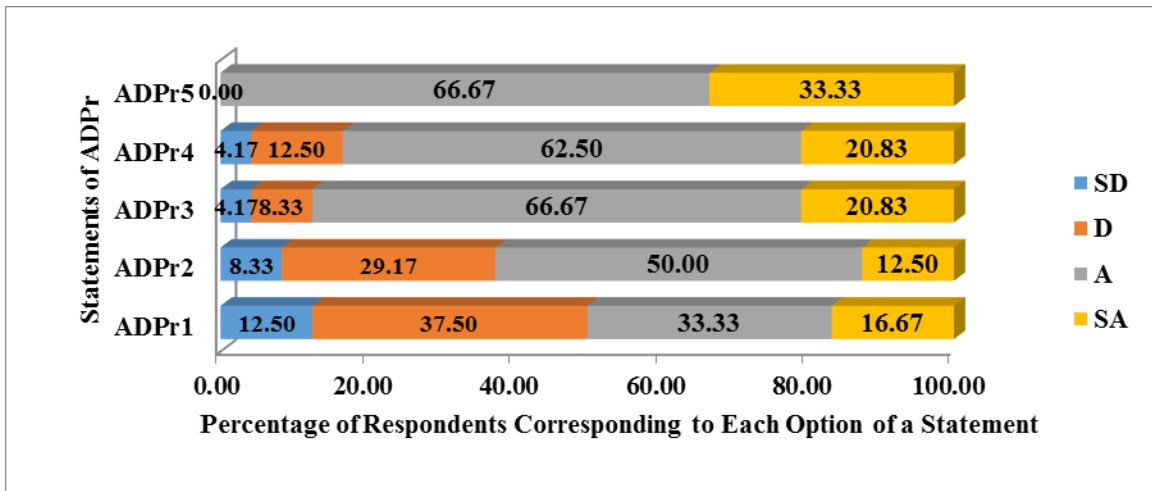
Figure 4.98: **Percentage of Responses of Principals Corresponding to Each Option of Administrative Product Statements**

Based on the percentages of principals of colleges of education corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.98), it is found that the maximum percentage of principals of colleges of education opted the option agree (A) and strongly agree (SA) which results to the positive impact of the five statements of administrative product (ADPr) dimension of Input factor of B.Ed. programme on principals of colleges of education.

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in table 4.122 and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of five statements of administrative product dimension of Product factor of B.Ed. programme on principals of colleges of education.

Table 4.122

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Five Statements of Administrative Product Dimension of Product Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements →			$ADPr_1$	$ADPr_2$	$ADPr_3$	$ADPr_4$	$ADPr_5$
↓	N_n ↓ $\%_n$ ↓	N_p → $\%_p$ →	12 50.00	15 62.50	21 87.50	20 83.33	24 100.00
$ADPr_1$	12 50.00		$t = .00$	-	-	-	-
$ADPr_2$	9 37.50		-	$t = 1.22$	-	-	-
$ADPr_3$	3 12.50		-	-	$t = 3.67^{**}$	-	-
$ADPr_4$	4 16.67		-	-	-	$t = 3.27^{**}$	-
$ADPr_5$	0 0		-	-	-	-	$t = $ Infinity**

N_p ($\%_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n ($\%_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** $\alpha = .01$
$ADPr_1$ (Increased the focus on getting admissions); $ADPr_2$ (Increased the focus on teacher requirement); $ADPr_3$ (Improved my administrative skills); $ADPr_4$ (Increased my administrative workload); and $ADPr_5$ (Increased my academic responsibilities)

There are significant and non-significant differences between the percentage of principals of colleges of education, who have a positive and negative impact, in the three statements (i.e. $ADPr_3$, $ADPr_4$, and $ADPr_5$) and two statements (i.e. $ADPr_1$ and $ADPr_2$) respectively, as the values of t $_{(22)}$ = 3.67, 3.27 & infinity; and .00 & 1.22 are significant and non-significant at α = .01 and .05 respectively (table 4.122). Therefore, the three statements

(i.e. $ADPr_3$, $ADPr_4$, and $ADPr_5$) have a significantly more positive impact on principals of colleges of education as compared to their negative impact. On the other hand, two statements (i.e. $ADPr_1$ and $ADPr_2$) have no significant difference in their positive and negative impact on PCE. Thus, H_o stands not accepted for the three statements $ADPr_3$, $ADPr_4$, and $ADPr_5$ and accepted for the two statements $ADPr_1$ and $ADPr_2$ of administrative product (ADPr) dimension of Product factor of B.Ed. programme.

4.1.3.17 **Statementwise Analysis of Data of Managerial Product Dimension of Product Factor of Impact of B.Ed. Programme on Principals of Colleges of Education**

The synthetic indexes for the three statements of Managerial Product (MPr) dimension of the impact of B.Ed. programme are 3.08, 3.13, and 3.13 (table 4.123) as mean values; which indicates that there is a positive impact of the three statements on principals of colleges of education. The arrangement of mean values in descending order of their impact on principals of colleges of education is as follows:

$$MPr_2 (3.13) = MPr_3 (3.13) > MPr_1 (3.08)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the two statements i.e. MPr_2 (Improved my management skills) and MPr_3 (Increased collaborations with the community) have more impact on principals of colleges of education as compared to statement MPr_1 (Increased my supervision work) as managerial product (MPr) dimension of Product factor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in the table 4.123 and tested against the following null hypothesis:

H_o: There exists no significant difference in the impact of three statements of managerial product dimension of Product factor of B.Ed. programme on principals of colleges of education.

There are non-significant differences in the impact of all the three comparisons between means of responses for the statements MPr_2 vs MPr_3; MPr_2 vs MPr_1; and MPr_3 vs MPr_1, as the values of t $_{(23)}$ = .00, .30 and .33 are non-significant at α = .05; (table 4.123).

Table 4.123

Means Matrix Showing Significance of Difference in Means of Three Statements of the Managerial Product Dimension of Product Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements ⟶		MPr_2	MPr_3	MPr_1
↓	M	3.13	3.13	3.08
	SD	.61	.54	.50
MPr_2	r	-	.61**	.25
	t		.00	.30
MPr_3	r		-	.28
	t			.33
MPr_1	r			-
	t			

** $\alpha = .01$ and * $\alpha = .05$

MPr_1 (Increased my supervision work); MPr_2 (Improved my management skills); and MPr_3 (Increased collaborations with the community)

Therefore, the statements MPr_2 vs MPr_3; MPr_2 vs MPr_1; and MPr_3 vs MPr_1 have no significant difference in the impact on principals of colleges of education. Thus, H_o stands accepted for the three comparisons between means of responses to the statements MPr_2 vs MPr_3; MPr_2 vs MPr_1; and MPr_3 vs MPr_1 of managerial product (MPr) dimension of Product factor of B.Ed. programme.
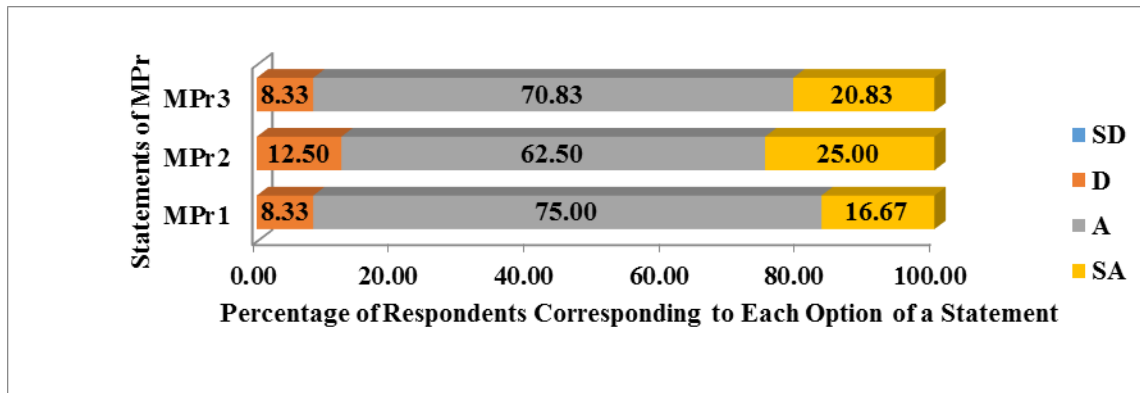
Figure 4.99: **Percentage of Responses of Principals Corresponding to Each Option of Managerial Product Statements**

Based on the percentages of principals of colleges of education corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for

different statements (Fig. 4.99), it is found that the maximum percentage of principals of colleges of education opted the option agree (A) and strongly agree (SA) which results to the positive impact of the three statements of managerial product (MPr) dimension of Product factor of B.Ed. programme on principals of colleges of education.

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented below (table 4.124) and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of three statements of managerial product dimension of Product factor of B.Ed. programme on principals of colleges of education.

Table 4.124

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Three Statements of Managerial Product Dimension of Product Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements ⟶			MPr$_1$	MPr$_2$	MPr$_3$
↓	N_n ↓ %$_n$ ↓	N_p ⟶ %$_p$ ⟶	22 91.67	21 87.50	22 91.67
MPr$_1$	2 8.33		t =4.08**	-	-
MPr$_2$	3 12.50		-	t =3.67**	-
MPr$_3$	2 8.33		-	-	t =4.08**

*N_p (%$_p$) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n (%$_n$) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01*
MPr$_1$ (Increased my supervision work); MPr$_2$ (Improved my management skills); and MPr$_3$ (Increased collaborations with the community)

There are significant differences between the percentage of principals of colleges of education, who have a positive and negative impact, in all the three statements (i.e. MPr$_1$, MPr$_2$, and MPr$_3$), as the values of t $_{(22)}$ = 4.08, 3.67, and 4.08 are significant at α = .01 (table 4.124). Therefore, all three statements have a significantly more positive impact on

the principals of colleges of education as compared to their negative impact. Thus, H_o stands not accepted for statements MPr_1, MPr_2, and MPr_3 of managerial product (MPr) dimension of Product factor of B.Ed. programme.

4.1.3.18   Statementwise Analysis of Data of Training Product Dimension of Product Factor of Impact of B.Ed. Programme on Principals of Colleges of Education

The synthetic indexes for the four statements of Training Product (TPr) dimension of the impact of B.Ed. programme are 3.42, 3.29, 3.00, and 3.00 (table 4.125) as mean values; which indicates that there is a positive impact of the four statements on principals of colleges of education. The arrangement of mean values in descending order of their impact on principals of colleges of education is as follows:

$$TPr_1 (3.42) > TPr_2 (3.29) > TPr_3 (3.00) = TPr_4 (3.00)$$

Based on the above order of statements with respect to their synthetic mean values, it is found that the statement TPr_1 (Increased engagement with schools) has more impact on principals of colleges of education as compared to the other three statements i.e. TPr_2 (Increased involvement in teaching internship); TPr_3 (Increased mentoring/guiding sessions with teacher educators); and TPr_4 (Increased contacts with outside academic experts/professionals) as training product (TPr) dimension of Product factor of B.Ed. programme.

The significance of the difference between these means have been compared and shown in the means matrix presented in the table 4.125 and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of four statements of training product dimension of Product factor of B.Ed. programme on principals of colleges of education.

There are significant differences in the impact of the four comparisons between means of responses for the statements TPr_1 and TPr_2 over the statements TPr_3 and TPr_4, as the values of $z_{(23)} = 2.63$, 2.63, 3.08, and 3.08 are significant at $\alpha = .05$ and $.01$; and there are non-significant differences in the impact of the two comparisons between means of

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responses for the statements TPr_1 vs TPr_2 and TPr_3 vs TPr_4, as the values of t $_{(23)}$ = 1.37 and .00 are non-significant at α = .05; (table 4.125).

Table 4.125

Means Matrix Showing Significance of Difference in Means of Four Statements of the Training Product Dimension of Product Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements ⟶		TPr_1	TPr_2	TPr_3	TPr_4
	M	3.42	3.29	3.00	3.00
	SD	.58	.62	.72	.72
TPr_1	r	-	.73**	.31	.31
	t		1.37	2.63*	2.63*
TPr_2	r		-	.77**	.77**
	t			3.08**	3.08**
TPr_3	r			-	.92**
	t				.00
TPr_4	r				-
	t				

** α = .01 and * α = .05 **

TPr₁ (Increased engagement with schools); TPr₂ (Increased involvement in teaching internship); TPr₃ (Increased mentoring/guiding sessions with teacher educators); and TPr₄ (Increased contacts with outside academic experts/professionals)

Therefore, the higher mean score of the statements TPr_1 (M_{TPr1} = 3.42) and TPr_2 (M_{TPr2} = 3.29) indicates that the statements TPr_1 and TPr_2 have significantly more impact on principals of colleges of education as compared to the statements TPr_3 (M_{TPr3} = 3.00) and TPr_4 (M_{TPr4} = 3.00). On the other hand, the statements TPr_1 vs TPr_2 and TPr_3 vs TPr_4 have no significant difference in the impact on principals of colleges of education. Thus, H_o stands not accepted for the four comparisons between means of responses to the statements TPr_1 vs TPr_3; TPr_1 vs TPr_4; TPr_2 vs TPr_3; and TPr_2 vs TPr_4 whereas H_o stands accepted for the two comparisons between means of responses to the statements TPr_1 vs TPr_2 and TPr_3 vs TPr_4 of training product (TPr) dimension of Product factor of B.Ed. programme.

Based on the percentages of principals of colleges of education corresponding to the options strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD) for different statements (Fig. 4.100), it is found that the maximum percentage of principals of

colleges of education opted the option agree (A) and strongly agree (SA) which results to the positive impact of the four statements of training product (TPr) dimension of Product factor of B.Ed. programme on principals of colleges of education.
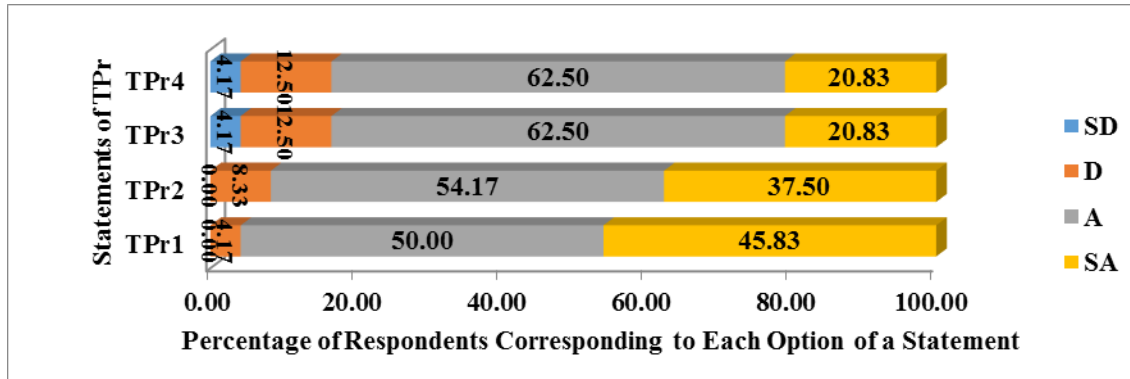
Figure 4.100: Percentage of Responses of Principals Corresponding to Each Option of Training Product Statements

Table 4.126

Percentages Matrix Showing Significance of Difference in Positive and Negative Percentages of Four Statements of Training Product Dimension of Product Factor regarding Impact of B.Ed. Programme on Principals of Colleges of Education

Statements ⟶			TPr_1	TPr_2	TPr_3	TPr_4
↓	N_n ↓ %ₙ ↓	N_p ⟶ %ₚ ⟶	23 95.83	22 91.67	20 83.33	20 83.33
TPr_1	1 4.17		t =4.49**	-	-	-
TPr_2	2 8.33		-	t =4.08**	-	-
TPr_3	4 16.67		-	-	t =3.27**	-
TPr_4	4 16.67		-	-	-	t =3.27**

N_p (%ₚ) - Number (Percentage) of respondents who opted to encircle 'A' and 'SA'; N_n (%ₙ) - Number (Percentage) of respondents who opted to encircle 'D' and 'SD'; and ** α = .01

TPr_1 (Increased engagement with schools); TPr_2 (Increased involvement in teaching internship); TPr_3 (Increased mentoring/guiding sessions with teacher educators); and TPr_4 (Increased contacts with outside academic experts/professionals)

The significance of the difference between these percentages have been compared and shown in the percentages matrix presented in the table 4.126 and tested against the following null hypothesis:

H_o: There is no significant difference in the positive and negative impact of four statements of training product dimension of Product factor of B.Ed. programme on principals of colleges of education.

There are significant differences between the percentage of principals of colleges of education, who have a positive and negative impact, in all the four statements (i.e. TPr_1, TPr_2, TPr_3, and TPr_4), as the values of $t_{(22)}$ = 4.49, 4.08, 3.27 and 3.27 are significant at α = .01 (table 4.126). Therefore, all four statements have a significantly more positive impact on the principals of colleges of education as compared to their negative impact. Thus, H_o stands not accepted for statements TPr_1, TPr_2, TPr_3, and TPr_4 of training product (TPr) dimension of Product factor of B.Ed. programme.

4.1.3.19 Contribution of Context, Input, Process, and Product Factors (CIPP) of B.Ed. Programme in Impact of B.Ed. Programme on Principals of Colleges of Education

The multiple linear regression analysis was applied to the collected data to see the relative contributions of context, input, process, and product in the impact of B.Ed. programme on principals of colleges of education. The details are presented below in table 4.127 and 4.128.

Table 4.127

Model and ANOVA Summary for Context, Input, Process, and Product (CIPP) Factors of B.Ed. Programme as Contributor of Impact of B.Ed. Programme on Principals of Colleges of Education

Model	R	R square	Adjusted R square	Std. Error of Estimate	F-value	Sign.
CIPP &IBP on PCE	1.00[a]	1.00	1.00	.0028	79412.90	.000[b]
a. Predictors: (Constant), Context, Input, Process, and Product; b. Dependent Variable: IBP						

CIPP-Context, Input, Process, and Product; IBP- Impact of B.Ed. program; and PCE-Principals of Colleges of Education

Table 4.128

Coefficients [a] and t-values for CIPP & Impact of B.Ed. Programme on Principals of Colleges of Education

Model		Unstandardized Coefficients		Standardized Coefficients	t-value	Sign.
		B	Std. Error	Beta		
CIPP & IBP on PCE	Constant	.003	.006	-	.44	.67
	Context	.16	.002	.21	94.17	.000
	Input	.29	.002	.38	131.35	.000
	Process	.32	.002	.44	163.47	.000
	Product	.23	.002	.26	135.63	.000

CIPP-Context, Input, Process, and Product; IBP- Impact of B.Ed. program; and PCE-Principals of Colleges of Education

From table 4.127, it is clear that the independent variables i.e., context, input, process, and product factors of B.Ed. programme are significant contributors to the total impact of B.Ed. programme (the dependent variable) on principals of colleges of education. The standardized coefficient 'β' (determination coefficient) values (table 4.128) concluded that the process factor (.44) and context factor (.21) of B.Ed. programme has made maximum and minimum contribution respectively in the impact of B.Ed. programme on principals of colleges of education. The order of relative contribution of context, input, process, and product factors in the impact of B.Ed. programme on principals of colleges of education is given below:

Process (.44) > Input (.38) > Product (.26) > Context (.21)

Now, the summary of the results, related to the impact of B.Ed. programme on principals of colleges of education are pointwise mentioned below:

1. Based on the descriptive and inferential analysis, it has been found that there is whole (net), factorwise, dimensionwise, and indicatorwise/statementwise positive impact of B.Ed. programme on principals of colleges of education.

2. Process factor has maximum and Product factor has a minimal positive impact on principals of colleges of education.

3. Based on the descriptive and inferential analysis, it has been found that Mission & Vision (MV); Professional Inputs (PI); Administrative & Academic Process (AAP); and Training Product (TPr) dimensions of Context; Input; Process and Product factors respectively of B.Ed. programme has a maximum positive impact on PTs and the dimension Programme Objectives (PO); Academic & Evaluation Inputs (AEI); Professional Process (PP); and Administrative Product (ADPr) dimensions of Context; Input; Process and Product factors respectively of B.Ed. programme have a minimum positive impact on principals of colleges of education.

4. On the basis of descriptive and inferential analysis, it has been found that MV_1 (Develops prospective teachers into a competent professional), PO_1 (Focuses upon the practical aspects of teaching and learning process), AEI_2 (Prepare academic calendar for B.Ed. programme), AEI_1 (Include subject-specific field-based assignments in curriculum), RI_3 (Set well equipped learning resource centers/labs as per norms of NCTE), TI_4 (Plan rigorous teaching internship of 14 weeks in schools), PI_1 (Organize different professional activities for the enhancement of professional capacities), AAP_2 (Organize different academic and non-academic activities as per academic calendar), PP_3 (Organize workshops and seminars by the expert professionals of the concern field), TEP_3 (Organize of simulated teaching for developing teaching skills), TEP_5 (Organize teaching internship in different types of schools), $ADPr_5$ (Increased my academic responsibilities), MPr_2 MPr_2 (Improved my management skills), MPr_3 (Increased collaborations with community) and TPr_1 (Increased engagement with schools) indicators/statements of B.Ed. programme have maximum positive impact on PCE whereas MV_4 (Develops inclusive competencies to deal with diverse students), PO_4 (Increases employment opportunities for prospective teachers), AEI_3 (Include diverse projects in curriculum), AEI_4 (Plan rubrics for evaluation), AEI_5 (Supervise and evaluate the academic work with the help of technology), RI_2 (Ensure availability of modern learning facilitates in classrooms), TI_2 (Design teaching internship

handbook), PI_3 (Plan extra input for state/center level teacher eligibility test), AAP_3 (Plan assignments as case studies and small projects), PP_2 (Organize service-learning programmes as per the need of community), TEP_8 (Use rubrics & latest evaluation techniques for evaluating the work of pupil teachers), $ADPr_1$ (Increased the focus on getting admissions), MPr_1 (Increased my supervision work), TPr_3 (Increased mentoring/guiding sessions with teacher educators) and TPr_4 (Increased contacts with outside academic experts/professionals) indicators/statements of B.Ed. programme have a minimum positive impact on principals of colleges of education.

5. Based on the multiple linear regression analysis, it has been found that Context, Input, Process, and Product factors of B.Ed. programme are significant contributors to the impact of B.Ed. programme on principals of colleges of education. The arrangement in the descending order of their relative contribution in the impact of B.Ed. programme on principals of colleges of education is as follows:

$$Process > Input > Product > Context$$

6. Therefore, multiple linear regression analysis showed that, out of the four factors of B.Ed. programme; process factor is the strongest contributor and Context factor is the weakest contributor in the impact of B.Ed. programme on principals of colleges of education.

Next, qualitatively analysis of responses of teacher educators and principals of colleges of education to various open-ended questions of ESIBP-TEs and ESIBP-PCE surveys respectively have been done to study the impact of B.Ed. programme on teacher educators and principals of colleges of education.

Firstly, qualitatively analysis of responses of teacher educators to various open-ended questions of ESIBP-TEs surveys has been done to study the impact of B.Ed. programme on teacher educators.

4.1.4 Quantitative and Qualitative Analysis of the Responses of Teacher Educators and Principals of Colleges of Education to various Questions of Evaluation Scale for Impact of B.Ed. Programme Survey

4.1.4.1 Analysis of Responses of Teacher Educators to various questions of Evaluation Scale for Impact of B.Ed. Programme Survey

To gets an insight into the opinions of teacher educators towards the impact of B.Ed. programme, qualitative analysis of answers given by teacher educators corresponding to various questions of evaluation scale for the impact of B.Ed. programme (ESIBP) survey was done and results presented below:

Table 4.129

Number and Percentage of Teacher Educators in Favour and Against of Two Years B.Ed. Programme

Q. No.	Question	Two Year B.Ed. Programme			
		In Favour		Against	
1.	What are the major differences between one year and two years B.Ed. programme?	N	%	N	%
		85	71	35	29

Following are the observations from table 4.129 regarding the opinion of teacher educators w. r. t. the difference in one year and two-year B.Ed. programme;

➢ 71% (85 out of 120 teacher educators) of the teacher educators thought that the two-year B.Ed. programme is more broad, realistic, and comprehensive; focuses on a wide range of areas to be enhanced in students; there is increased emphasis on practical work and application of each subject and school internship programme; the curriculum is more technological-based; more useful and promotes more flexible approach towards teaching profession. It emphasizes concept clarity; has improved school internship and provides a better learning opportunity to pupil teachers; has enhanced the teaching skills as professional skills; has improved quality and performance of pupil teachers slowly and steadily; has reduced the burden of teacher educators; has given more opportunities and exposures to pupil teachers in understanding the depth of

teaching profession during long teaching internship; has introduced more relevant and diversified subjects in curriculum as per future need of education; has orientated pupil teachers towards skill-based learning; has equally distributed the workload into four semesters; has provided enough time to teacher educators for proper observation, continuous assessment and guidance of pupil teachers; has raised the quality of teacher education, and has focused more on activity-oriented and experiential learning; more emphasis on quality education as compared to one year B. Ed. programme.

➢ 29% (35 out of 120 teacher educators) of the teacher educators thought that the workload of teachers, as well as students, increased in two years; is mere wastage of time, money, and energy; the two-year B.Ed. programme is less comprehensive in nature; is less focused on some basic parameters; is not better in terms of output of students with respect to internship of long period; has engaged students in more assignment work; has created extra financial burden on students due to increase in fee of course (almost double); is wastage of all type of resources; is totally dependent on schools and independent of colleges of education for internship program; is not focused on holistic development of pupil teachers; has increased burdened on pupil teachers as well as teacher educators; has created problems related to selection of learning material for pupil teachers due to non-availability of subject-specific learning material in market; is full of activities; is less effective; has increased mal-practices like non-attending admissions; has resulted in poor supervision of teaching internship; is more examination laden and allotted more assignment work; is less attractive, interesting and effective; has resulted in non-uniformity in curriculum; and has provided less time for self enhancement as compared to one year B.Ed. programme.

Table 4.130

Responses, Number and Percentage of Teacher Educators w. r. t. Influence of Two Years B.Ed. Programme on Work Load

Q. No.	Question	Increase in Workload		Decrease in Workload		No Change in Workload	
		N	%	N	%	N	%
2.	How have two years B.Ed. programme influenced your workload?	96	80	10	8	14	12

Following are the observations from table 4.130 regarding the impact of two years programme on the workload of teacher educators;

➢ 80% (96 out of 120 teacher educators) of the teacher educators are of the opinion that workload has increased due to addition of number of theory and practical courses; internship has turned more specific as well as diversified; quality of internship suffers in the hands of school supervisors; unnecessary work for both pupil teachers and teacher educators in terms of diversity of subjects; more assignments, more project work, more field activities, frequent internal-external assessment, more co-curricular activities; have to organize more professional activities; simultaneous holding of theory classes and supervision of school internship; have to invest more time in the preparation for class teaching despite shortage of good learning material as per new curriculum; have to use more of ICT gadgets in the preparation for teaching; to invest more efforts for skill development and good professional growth; have to complete more tasks within short span of time; and thus there is increment in the duties as well as responsibilities of teacher educators in two year B.Ed. programme.

➢ 8% (10 out of 120 teacher educators) of the teacher educators thought that workload is less on both teacher educators and pupil teachers as work is divided widely over four semesters; teacher educators get more time to interact with pupil teachers, and pupil teachers get a lot of time to learn in two years B.Ed. programme.

> 12% (14 out of 120 teacher educators) of the teacher educators thought that in two years B.Ed. programme, the workload of teacher educators remains the same as that of one year B.Ed. programme due to the reason that the number of staff members has also increased.

Table 4.131

Number and Percentage of Teacher Educators w. r. t. Impact of Two Years B.Ed. Programme on Academic and Non-Academic Responsibilities (ANAR)

Q. No.	Question	No Change in ANAR		Increase in ANAR	
		N	%	N	%
3.	What is the impact of two years programme on your academic and non-academic responsibilities?	15	12.5	105	87.5

Following are the observations from table 4.131 regarding the impact of two years programme on academic and non-academic responsibilities of teacher educators;

> 12.5% (15 out of 120 teacher educators) of the teacher educators thought that only responsibilities of teacher educators have been segregated but there is not much impact of two years B.Ed. programme on the academic and non-academic responsibilities of teacher educators.

> 87.5% (105 out of 120 teacher educators) of the teacher educators thought that academic and non-academic responsibilities/workload has escalated the load in many folds; there is a need to prepare lectures for more courses; more focus on creating real-life situations; have to focus more on field-based learning; have to conduct more number of internal-external theory and practical exams and consequently more assessment and evaluation work; have to organize and conduct more co-curricular activities as per the demand of curriculum; there is pressure related to the completion of syllabus within a fixed time; have to prepare data related to SC students' scholarship and internal assessment; to prepare admissions, examinations, and result related records; have to counsel students for admission in B.Ed. programme; have to put additional efforts to get 100% admission in the college; to make more number of observations as lesson plan delivery has also

increased during the internship; responsibilities related to conduct and supervise various school internship and field engagement activities increased i.e. observation of classroom teaching of pupil teachers, case study, action research, reflective journal, academic and co-curricular activities; community project, service-learning; internship related responsibilities; supervision of pupil teachers during school internship; more social interaction with community and NGOs; and more engagement of teacher educators in professional as well as placement activities for pupil teachers in two years B.Ed. programme.

Table 4.132

Number and Percentage of Teacher Educators w. r. t. different type of

Pressures/New Responsibilities due to Two Years B.Ed. Programme

Q. No.	Question	Yes		No	
	What types of pressure/new responsibilities are there on your good self relating to the admission of students?	N	%	N	%
4.		77	64	43	36

Following are the observations from table 4.132 regarding pressure/new responsibilities on teacher educators relating to the admission of students due to two-year B.Ed. programme;

➢ 64% (77 out of 120 teacher educators) of the teacher educators thought that in two years B.Ed. programme, the different new responsibilities on teacher educators related to admission of students are publicized/advertised in two years B.Ed. course; work on new strategies for admission; adopting new trends of advertising and marketing for the admission; put extra efforts for admission; convince students to take admission; campus beautification of college; emphasizes the development of social skills to attract admission; to organize awareness campaigning for people regarding two years B.Ed. course; identifying and permitting candidates for dummy admission/non-attending admission; getting data of pass out graduates from nearby degree colleges by all means and making phone calls to eligible candidates and their parents; guiding and counseling

students to get admission in the two years B.Ed.; to deliver presentations to degree college students or passing out students of graduate courses to impress upon them the benefits for seeking/attracting admissions in two years B.Ed. programme. The types of pressure on teacher educators in two years B.Ed. programme are enrolling an ample number of students in the college; job insecurity, targets are given to get admission; to contact the community for the same; decrease in the number of aspirants for doing B.Ed. every year; and hunting as well as ensuring admission to students who are eligible for scheduled caste scholarships or other government scholarships.

➢ 36% (43 out of 120 teacher educators) of the teacher educators thought that in two years B.Ed. programme, is that they have no new responsibilities and no pressure related to admissions of pupil teachers in their college because these colleges secured 100% admissions every year due to the approachable location of the college, good reputation of the college, admission of students are made through centralized counseling and as per the guidelines laid down by the government and university.

Table 4.133

Number and Percentage of Teacher Educators w. r. t. Influence of Two Years B.Ed. Programme on Pedagogical Competencies

Q. No.	Question	Positive		Negative		No	
		N	%	N	%	N	%
5.	Earlier you were teaching one session at a time but now there are two sessions simultaneously running, how has it influenced your pedagogical competencies?	68	57	3	2	49	41

Following are the observations from table 4.133 regarding the influence of two years B.Ed. programme on pedagogical competencies of teacher educators;

➢ 57% (68 out of 120 teacher educators) of the teacher educators thought that pedagogical competencies of teacher educators enhanced in two years B.Ed. A lot of teacher educators liked using ICT resources; integration of various subjects;

using various online resources for searching content matter; using of versatile approach to provide good learning experiences to pupil teachers; conducting pupil teachers' presentation in seminar mode to develop proper understanding among pupil teachers.

➢ 41% (49 out of 120 teacher educators) of the teacher educators thought that there is no influence of two years B.Ed. programme on pedagogical competencies of teacher educators. Pedagogies are adopted as per the nature of the subject and they are content specific not session-specific.

➢ 2% (3 out of 120 teacher educators) of the teacher educators thought that pedagogical competencies of teacher educators have lowered down because in one year B.Ed. programme focus is on one or two subjects but in two years B.Ed. programme focus is on more than four subjects i.e. more workload on teacher educators. Teacher educators completed course content in a hurry due to a shortage of time instead of working out for improving their pedagogical competencies.

Table 4.134

Number and Percentage of Teacher Educators w. r. t. Influence of Two Years B.Ed. Programme on Supervisory Responsibilities (SR)

Q. No.	Question	Increase in SR		No Change in SR	
6.	How 18 weeks long teaching internship has	**N**	**%**	**N**	**%**
	influenced your supervisory responsibilities?	**97**	**81**	**23**	**19**

Following are the observations from table 4.134 regarding the influence of 18 weeks long teaching internship on supervisory responsibilities of teacher educators due to two-years B.Ed. programme;

➢ 81% (97 out of 120 teacher educators) of the teacher educators thought that teacher educators are overburden with supervision responsibilities. As the teaching of the first semester is going on in the college, therefore, supervision of the various aspects of pupil teachers is less comprehensive, effective, and

efficient; visits of teacher educators to internship schools to supervise various activities of pupil teachers is reduced; teacher educators invest less time in the assessment and evaluation of pupil teachers, and teacher educators are not in regular contact with pupil teachers during school internship in the two years B.Ed. programme.

➢ 19% (23 out of 120 teacher educators) of the teacher educators thought that in two years B.Ed. programme, there is no significant influence of 18 weeks long teaching internship on supervisory responsibilities, and teacher educators who are assigned the duty of supervising pupil teachers during school internship are not engaged in the teaching in college.

Table 4.135

Number and Percentage of Teacher Educators w. r. t. Influence of Two Years B.Ed. Programme on Professional Competencies (PC)

Q. No.	Question	Increase in PC		No Change in PC	
		N	%	N	%
7.	Two years B.Ed. programme emphasizes upon enhancing professional competencies of the pupil teachers, how has it influenced you?	83	69	37	31

Following are the observations from table 4.135 regarding the influence of two years B.Ed. programme on professional competencies of teacher educators;

➢ 69% (83 out of 120 teacher educators) of the teacher educators thought that professional competencies of teacher educators enhanced by remaining conscious; using critical thinking; keeping informed and skilled; updating knowledge, developing teaching, professional and pedagogical skills; attending workshops, and seminars; keeping updated with policies, rule, and regulations; and by developing academic collaborations in two years B.Ed. programme.

➢ 31% (37 out of 120 teacher educators) of the teacher educators thought that professional competencies of teacher educators remain the same in two years B.Ed. programme.

Table 4.136

Number and Percentage of Teacher Educators w. r. t. Employability Initiatives in Two Years B.Ed. Programme

Q. No.	Question	Initiatives		No Initiative	
		N	%	N	%
8.	There is a focus on the employability of pupil teachers in two years B. Ed. programme. What sort of different initiatives are you taking in this direction?	97	81	23	19

Following are the observations from table 4.136 regarding the different initiatives taken by teacher educators for the employability of pupil teachers in two years B. Ed. programme;

➢ 81% (97 out of 120 teacher educators) of the teacher educators thought that in two years B.Ed. programme, efforts are made to setup placement cell for upgrading the pupil teachers; job fairs are conducted and schools are invited for placement of pupil teachers; placement drives are organized; pupil teachers for PTET/CTET exams are guided; classes for PTET/CTET exams are conducted; provided learning material for teacher eligibility exam; CAs are as per the CTET pattern; pupil teachers are guided to excel in their life and communication skill; developed professionalism among pupil teachers; teaching competencies of pupil teachers are developed; a workshop for CV writing are organized; encouraged pupil teachers to appear in interviews; and shared job information with pupil teachers.

➢ 19% (23 out of 120 teacher educators) of the teacher educators thought that no initiatives have been taken in this direction. There is no focus on the employment of pupil teachers in two years B.Ed. programme.

Table 4.137

Number and Percentage of Teacher Educators w. r. t. Influence of Two Years B.Ed. on Collaboration with Colleagues

Q. No.	Question	Positive		Negative		No	
		N	%	N	%	N	%
9.	How two years B. Ed. programme has influenced your collaboration with your colleagues?	74	62	15	12	31	26

Following are the observations from table 4.137 regarding the influence of two years B.Ed. programme on the collaboration of teacher educators with their colleagues;

➢ 62% (74 out of 120 teacher educators) of the teacher educators thought that collaboration in terms of cordial academic and social relationship is enhanced; more discussion and experience sharing for collaboratively conducting community work are there, co-curricular activities, teamwork, team teaching, cooperative learning, etc. There is a more friendly collaboration with colleagues, and the inter-dependence among staff has increased due to collaborative teaching-learning during the two-year B.Ed. programme.

➢ 26% (31 out of 120 teacher educators) of the teacher educators thought that two-year B.Ed. programme has not influenced any collaboration with colleagues. Teacher educators were already sharing a cordial relationship and working in coordination with colleagues as usual.

➢ 12% (15 out of 120 teacher educators) of the teacher educators thought that two-year B.Ed. programme has lowered down the cooperation among colleagues because of more workload and finding less time to interact, creates frustration between colleagues, and no one has time to spend it with his colleagues.

Table 4.138

Number and Percentage of Teacher Educators w. r. t. Influence of Two Years B.Ed. on Evaluation Work

Q. No.	Question	Increase in Evaluation Work		No Change in Evaluation Work	
10.	How two years B. Ed. programme has influenced your evaluation work?	N	%	N	%
		94	78	26	22

Following are the observations from table 4.138 regarding the influence of two years B.Ed. programme on evaluation work of teacher educators;

➢ 78% (94 out of 120 teacher educators) of the teacher educators thought that in two years B.Ed. programme, evaluation load has increased; evaluation has become more tedious and not done properly; there is evaluation of more files, assignments, projects and answer scripts; evaluation is more rigorous and needs focusing more on application part; a variety of evaluation is done during school internship in terms of evaluation of case studies, action research, reflective journals, lesson plans, classroom teaching, curricular and co-curricular activities, etc.

➢ 22% (26 out of 120 teacher educators) of the teacher educators thought that in two years B.Ed. programme, there is no significant influence on evaluation work, it remains as usual.

Table 4.139

Number and Percentage of Teacher Educators w. r. t. Influence of Two Years B.Ed. on Social Competencies (SC)

Q. No.	Question	Positive		No	
11.	How two years B.Ed. programme has influenced your social competencies?	N	%	N	%
		89	74	31	26

Following are the observations from table 4.139 regarding the influence of two years B.Ed. programme social competencies of teacher educators;

➢ 74% (89 out of 120 teacher educators) of the teacher educators thought that social competencies increased in two years B.Ed. programme due to more interaction with society, community, and NGOs officials during service-learning and community work, working with NGO's; working with internship school; more interaction between pupil teachers, school teachers, principals, and academic experts; there is an increase in the social sphere; and more collaboration with colleagues.

➢ 26% (31 out of 120 teacher educators) of the teacher educators thought that there is less time for social interaction due to more workload in two year B.Ed. programme, so, there is no influence on social competencies.

Table 4.140

Number and Percentage of Teacher Educators w. r. t. Influence of Two Years B.Ed. on Assignments Designing Competencies

Q. No.	Question	Positive		No	
12.	How two years B.Ed. programme has influenced your competencies relating to the design of assignments?	N	%	N	%
		88	73	32	27

Following are the observations from table 4.140 regarding the influence of two years B.Ed. programme on competencies of teacher educators relating to the design of assignments;

➢ 73% (88 out of 120 teacher educators) of the teacher educators thought that assignments designing competencies of teacher educators enhanced like assignments are field-based, activity-based, based on the application of ICT resources in education, based on creative and innovative ideas, focused on real-life experiences; interesting and application-oriented; based on useful output, and rubrics are designed for the objective evaluation of assignments during the two years B.Ed. programme.

➢ 27% (32 out of 120 teacher educators) of the teacher educators thought that there is no influence on the assignments designing competencies of teacher educators during two-year B.Ed. programme.

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Table 4.141

Number and Percentage of Teacher Educators w. r. t. Additional Impact/Influence of two years B.Ed. programme

Q. No.	Question	Yes		No		Neutral	
		N	%	N	%	N	%
13.	As a teacher educator, kindly mention any other impact/influence of two years B. Ed. programme on your good self.	98	82	06	05	16	13

Following are the observations from table 4.141 regarding other impacts/influences of two years B. Ed. programme on teacher educators;

➢ 82% (98 out of 120 teacher educators) of the teacher educators thought that there is more pressure of getting admissions; fear of losing the job, workload and responsibilities have been increased; designing more assignments; using more latest ICT resources influenced intellectual abilities, personalities, and social skills; strong connect has developed with practicing school and various social organizations; wider social network; diversified exposure to curricular and co-curricular activities during school internship; more participation in social work; and quality improvement activities for teacher education are of concern that impact/influence the teacher educators in the two years B. Ed. programme.

➢ 5% (6 out of 120 teacher educators) of the teacher educators thought that there is no other different impact of two years B.Ed. programme other than the one that happened during one year B.Ed. programme.

➢ 13% (16 out of 120 teacher educators) of the teacher educators did not respond/give their opinion for any other impact/influence of two years B.Ed. programme than that of one year programme.

Now, the summary of the results as per the qualitative analysis of responses of teacher educators towards the impact of B.Ed. programme on them, are pointwise mentioned below:

1. 71% (85 out of 120 teacher educators) and 29% (35 out of 120 teacher educators) of the teacher educators are in favour and against respectively of two years B.Ed. programme.

2. 80% (96 out of 120 teacher educators); 8% (10 out of 120 teacher educators); and 12% (14 out of 120 teacher educators) of the teacher educators think that their workload increased; reduced and remains the same as that of one year B.Ed. programme respectively as an impact of the two-year B.Ed. programme.

3. 87.5% (105 out of 120 teacher educators) of the teacher educators think that their academic and non-academic responsibilities increased manyfold as an impact of two years B.Ed. programme. On the other hand, 12.5% (15 out of 120 teacher educators) of the teacher educators think that there is not much impact of two years B.Ed. programme on their academic and non-academic responsibilities.

4. 64% (77 out of 120 teacher educators) of the teacher educators think that there is/are pressure/new responsibilities relating to the admission of PTs in two years B.Ed. programme whereas 36% (43 out of 120 teacher educators) of the teacher educators think that there is/are no pressure and no new responsibilities related to admissions of pupil teachers in two years B.Ed. programme.

5. 57% (68 out of 120 teacher educators); 41% (49 out of 120 teacher educators); and 2% (3 out of 120 teacher educators) of the teacher educators think that their pedagogical competencies are enhanced; not influenced, and lower down respectively in two years B.Ed. programme.

6. 81% (97 out of 120 teacher educators) and 19% (23 out of 120 teacher educators) of the teacher educators think that they are overburden with

supervision responsibilities and there is no significant influence on their supervisory responsibilities respectively in two years B.Ed. programme.

7. 69% (83 out of 120 teacher educators) and 31% (37 out of 120 teacher educators) of the teacher educators think that their professional competencies enhanced and remain the same, respectively, in two years B.Ed. programme.

8. 81% (97 out of 120 teacher educators) and 19% (23 out of 120 teacher educators) of the teacher educators think that various new initiatives and no initiatives respectively have been taken for the employability of pupil teachers in two years B.Ed. programme.

9. 62% (74 out of 120 teacher educators); 26% (31 out of 120 teacher educators) and 12% (15 out of 120 teacher educators) of the teacher educators think that there is positive, negative, and no impact of two years B.Ed. programme respectively on their collaboration with the colleagues.

10. 78% (94 out of 120 teacher educators) and 22% (26 out of 120 teacher educators) of the teacher educators think that in two years B.Ed. programme, evaluation load has increased and there is no significant influence on evaluation work respectively.

11. 74% (89 out of 120 teacher educators) and 26% (31 out of 120 teacher educators) of the teacher educators think that two-year B.Ed. programme has positive and no impact respectively on their social competencies.

12. 73% (88 out of 120 teacher educators) and 27% (32 out of 120 teacher educators) of the teacher educators think that it is significant and no influence respectively on their assignments designing competencies during two years B.Ed. programme.

13. 82% (98 out of 120 teacher educators) and 5% (6 out of 120 teacher educators) of the teacher educators think that there are various significant impacts and is no significant impact respectively on them due to the two years B. Ed. programme. 13% (16 out of 120 teacher educators) of the teacher

educators did not respond/give their opinion for any other impact/influence of two years B.Ed. programme on teacher educators.

Secondly, qualitatively analysis of responses of principals of colleges of education to various open-ended questions of ESIBP-PCE surveys has been done to study the impact of B.Ed. programme on principals of colleges of education.

4.1.4.2 Analysis of Responses of Principals of Colleges of Education to Various Questions of Evaluation Scale for Impact of B.Ed. Programme Survey

To gets an insight into the opinion of principals of colleges of education towards the impact of B.Ed. programme, analysis of answers given by principals of colleges of education corresponding to various questions of evaluation scale for the impact of B.Ed. programme survey was done and results are presented below:

Table 4.142

Number and Percentage of Principals of Colleges of Education in Favour and Against Two Years B.Ed. Programme

Q. No.	Question	Two Year B.Ed. Programme			
		In Favour		Against	
1.	What are the major differences between one year and two years B.Ed. programme?	N	%	N	%
		22	92	02	08

Following are the observations from table 4.142 regarding the opinion of principals of colleges of education w. r. t. the difference in one year and two-year B.Ed. programme;

➤ 92% (22 out of 24 principals of colleges of education) of the principals of colleges of education thought that two-year B.Ed. programme is elaborative by nature; the curriculum is activity and practical oriented; capable of preparing more competent future teachers; new subjects in the curriculum have been introduced as per the future demand; provides more time for rigorous school internship; provides more opportunities for exposure to different aspects of school routine activities and experience of teaching during school internship; provides better opportunities in terms of time and resources for the development of pupil teachers, community projects, and field engagement work; emphasizes practical aspects of teaching-

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learning; develops knowledge and positive attitude towards teaching profession among pupil teachers; effective development of teaching skills among pupil teachers; and development of communication skills, life skills, and critical thinking skills among pupil teachers;

➢ 8% (2 out of 24 principals of colleges of education) of the principals of colleges of education thought that in two years B.Ed. programme, the syllabus is divided into many parts; adds more new subjects; course fee is doubled; low enrollment of students; more syllabus and examinations; no attraction among students towards two years B.Ed. programme due to long duration of programme; increase in the trend of opting for non-attending admission among candidates; less rigorous and easy-going; and mere wastage of time, energy and resources as compared to one year B.Ed. programme. They think that one-year B.Ed. programme was more rigorous and easy-going as compared to the two-year programme and two-year B.Ed. is mere wastage of time.

Table 4.143

Number and Percentage of Principals of Colleges of Education w. r. t. Impact of Two Year B.Ed. Programme on Administrative Responsibilities (AR)

Q. No.	Question	Increase in AR		No Change in AR	
2.	What is the impact of two years B.Ed. programme on your administrative responsibilities?	N	%	N	%
		20	83	4	17

Following are the observations from table 4.143 regarding the impact of two years B.Ed. programme on administrative responsibilities of principals of colleges of education;

➢ 83% (20 out of 24 principals of colleges of education) of the principals of colleges of education thought that there is a significant impact of two years B.Ed. programme on their administrative responsibilities in terms of increases in administrative responsibilities; management of finances in grant-in-aid and self-financed colleges in term of paying salary to teachers against less admission of students; challenges in the allotment of uniform work load to teachers of subject

like performimg art, health and physical education and to art teacher during the whole semester; distribution of work load among teacher educators when conduct of theory classes of first semester and supervision of third semester pupil teachers holding school internship is going on simultaneously; ensuring availability of schools for school internship and seeking permission from concerned authorities for school internship; smooth and effective organization of field engagements, community programs, workshops and practical work; hundred percent admission against approved intake; increase in duty hours and work load; ensuring proper implementation of evaluation strategies; increase in obligation and responsibilities to deal with double number of students for different assignments; more paper work is needed to ensure the proper maintenance of students record and daily diary; challenge in keeping pace with aspiration of teachers as well as pupil teachers; ensuring new curriculum requirements; facing the challenge of convincing the candidates for joining B.Ed. course; facing the challenges of conducting school internship of long duration (i.e. 14 weeks) in schools (only a few schools are ready to allow for the proper conduct of internship); supervision of students and teachers during the internship; and effective management of different activities as prescribed in the syllabus. They thought that the most significant positive impact of two years B.Ed. programme on administrative responsibilities is that it provides more time for the proper conduct of all the activities prescribed in the curriculum.

➢ 17% (4 out of 24 principals of colleges of education) of the principals of colleges of education thought that the two-year B.Ed. programme has not much impact on their administrative responsibilities.

Table 4.144

Number and Percentage of Principals of Colleges of Education w. r. t. Pressure/New Responsibilities vs. Admission of Students

Q. No.	Question	Yes		No	
		N	%	N	%
3.	What types of pressure/new responsibilities are there on your good self relating to the admission of students?	18	75	6	25

Following are the observations from table 4.144 regarding the impact of two years B.Ed. programme versus pressure/new responsibilities relating to the admission of students on principals of colleges of education;

> ➢ 75% (18 out of 24 principals of colleges of education) of the principals of colleges of education thought that the various types of pressures on the Principals have cropped up and new responsibilities have been undertaken by them to ensure less financial loss, for example, filling 100% seats through advertisements; making more efforts for getting admissions; making aware the prospective candidates and parents about the significance of two years B.Ed. programme over other programmes through presentations at different platforms; motivating candidates for regular admission in a professional course of B.Ed. against non-attending admission in few self-financed colleges; approaching/contacting and delivering presentations related to the significance of two years B.Ed. programme to final year degree students of nearby degree colleges; scheduling as well as ensuring the execution process of contacting eligible candidates by making phone calls to the eligible candidates with the help of teacher educators and college administrative staff in June and July month and pursuing them to seek admission in the concerned institution.

> ➢ 25% (6 out of 24 principals of colleges of education) of the principals of colleges of education thought that there is no pressure/is no added admission related responsibility on them after the implementation of two years B.Ed. programme. The prime location and reputation of their college attract admissions, and

admissions are done/students get an allotment of college through centralized counseling.

Table 4.145

Number and Percentage of Principals of Colleges of Education w. r. t. Influence of Two Year B.Ed. Programme on Management Competencies

Q. No.	Question	Yes		No	
		N	%	N	%
4.	Earlier you were handling one session at a time but now there are two sessions simultaneously running, how has it influenced your management competencies?	16	67	8	33

Following are the observations from table 4.145 regarding the impact of two years B.Ed. programme on management competencies of principals of colleges of education;

➢ 67% (16 out of 24 principals of colleges of education) of the principals of colleges of education thought that their various management competencies like the effective engagement of teachers; maintaining various records; preparing college calendar; organization and planning of different activities; ensuring proper utilization of human and physical resources; managing both sessions of B.Ed. programme along with more workload; managing theory classes of the first year along with internship of second year B.Ed. students; managing internal theory examinations and skill in teaching practicals for pupil teachers of the first and second year; managing proper utilization of resources with the increased number of B.Ed. students; and managing both the sessions of B.Ed. programme with the available number of teacher educators has their responsibilities enhanced after the implementation of two years B.Ed. programme.

➢ 33% (8 out of 24 principals of colleges of education) of the principals of colleges of education thought that their management competencies are not much influenced/remain the same after the implementation of two-year B.Ed. programme.

Table 4.146

Number and Percentage of Principals of Colleges of Education w. r. t. Influence of Two Year B.Ed. Programme on Supervisory Responsibilities

Q. No.	Question	Positive		Negative		No	
		N	%	N	%	N	%
5.	How 18 weeks long teaching internship has influenced your relational and supervisory responsibilities?	13	54	8	33	3	13

Following are the observations from table 4.146 regarding the influence of 18 weeks long teaching internship on relational and supervisory responsibilities of principals of colleges of education during two years B.Ed. programme;

➢ 54% (13 out of 24 principals of colleges of education) of the principals of colleges of education thought that during 18 weeks long teaching internship of two years B.Ed. programme, they have made more efforts to maintain effective supervision, and the following guidelines are adhered to – seeking cooperation and good relations with the school authorities and district education office (DEO) for conducting internship program; maintaining congenial relation with teacher educators, school administration and community; establishing good coordination between school authorities and community for the better and effective conduct of internship and field engagement work, supervising and resolving various problems of teacher educators, pupil teachers, and school authorities by holding special meetings during the school internship.

➢ 33% (8 out of 24 principals of colleges of education) of the principals of colleges of education thought that after the implementation of two years B.Ed. programme, there is a problem in maintaining a good relationship with school authorities due to less number of teacher educators available for internship duty; supervision is difficult due to allotment of schools by District Education Officer/Office (DEO) in remote areas; less time to interact with school authorities due to admission and start of the new session in the college simultaneously running first-semester theory classes in institution or college.

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➤ 13% (3 out of 24 principals of colleges of education) of the principals of colleges of education thought that there is not much change in the relational and supervisory responsibilities.

Table 4.147

Number and Percentage of Principals of Colleges of Education w. r. t. Influence of Two Year B.Ed. Programme on Professional Competencies

Q. No.	Question	Positive		Negative		No	
	Two years B.Ed. programme emphasis upon enhancing professional competencies of the pupil teachers, how has it influenced you?	**N**	**%**	**N**	**%**	**N**	**%**
6.		**18**	**75**	**4**	**17**	**2**	**8**

Following are the observations from table 4.147 regarding the impact of two years B.Ed. programme on professional competencies of principals of colleges of education;

➤ 75% (18 out of 24 principals of colleges of education) of the principals of colleges of education thought that they have to manage more administrative activities in two years B.Ed. programme; to arrange and conduct more practical work; to work more for the placement of pupil teachers; to organize more guest lectures, seminars, and workshops in the department/institute/college; to learn new methods and techniques; apply various methodologies, practice more skills; develop pupil teachers professionally through different ways; work for the improvement of their competencies, and update knowledge and skills in the field of teacher education.

➤ 17% (4 out of 24 principals of colleges of education) of the principals of colleges of education thought that they faced a challenge in arranging the schools for organizing and conducting the school internship, and made very few and less frequent visits to internship schools for supervision.

➤ 8% (2 out of 24 principals of colleges of education) of the principals of colleges of education thought that there is not much change in their routine work or they are not influenced at all. They only prepared and added new subjects in the curriculum/scheme of two years B.Ed. programme.

Table 4.148

Number and Percentage of Principals of Colleges of Education w. r. t. Employability Initiatives in Two Years B.Ed. Programme

Q. No.	Question	Initiatives		No Initiative	
		N	%	N	%
7.	There is a focus on the employability of pupil teachers in two years B.Ed. programme. What sort of different initiatives are you taking in this direction?	23	96	1	4

Following are the observations from table 4.148 regarding the different initiatives taken by principals of colleges of education for the employability of pupil teachers in two years B. Ed. programme;

➢ 96% (23 out of 24 principals of colleges of education) of the principals of colleges of education thought that they have created a placement cell in their department/institution/college which is working for employability of pupil teachers by contacting schools; they have arranged mock interviews, college/campus interviews and placement drives; have contacted placement companies, collaborated with schools for the placement of pupil teachers and sent C.Vs. of pupil teachers to various schools/companies; they have organized workshops and conducted various professional enhancement activities (i.e. personality grooming; improvement in employability; improvement in communication and professional skills of pupil teachers) for pupil teachers making pupil teachers aware about the challenges of teaching job; and they have arranged sessions for preparation of competitive exams like CTET/STET/TET, etc., and provided training to use LCD, OHP, and other teaching aids. principals of colleges of education scheduled a class of teacher eligibility test (TET) preparation in the time-table for pupil teachers have ensured regular conduct of classes, have provided counseling and learning materials related to TET to pupil teachers free of cost.

➢ 4% (1 out of 24 principals of colleges of education) of the principals of colleges of education thought that no initiative/steps for employability of pupil teachers are taken because of non-attending culture in the college i.e. pupil teachers are not regular.

Table 4.149

Number and Percentage of Principals of Colleges of Education w. r. t. Challenges in Two Year B.Ed. Programme

Q. No.	Question	Yes		No	
		N	%	N	%
8.	Two years B.Ed. programme requires more number of teacher educators. What types of challenges are you facing for the same?	21	89	3	11

Following are the observations from table 4.149 regarding the different challenges faced by principals of colleges of education in two years B. Ed. programme;

➢ 89% (21 out of 24 principals of colleges of education) of the principals of colleges of education thought that nowadays it is very difficult to find eligible, capable, competent, qualified, trained, professional, and skilled teacher educators as per university norms; the college managements avoid the recruitment of the requisite number of regular teacher educators as per the norms of regulatory bodies; ineligible teachers are unable to develop professionalism and required skills among pupil teachers; the government has banned the recruitment of regular teachers against vacancy created due to retirement of teacher educators; many managements of teacher education institutions do not pay salaries to newly recruited teachers as per UGC norms due to less number of candidates admitted in the institution/college; there is the shortage of NET/Ph.D. candidates in general and specifically in language and social sciences; teachers are not available in Fine Arts and Music subjects who are mandatory to appoint as per NCTE norms; and as the duration of M.Ed. programme has also increased from one year to two years since 2015, therefore, after completing B.Ed. programme very few

candidates are joining the M.Ed. course and it leads to the scarcity and non-availability of qualified teachers.

➢ 11% (3 out of 24 principals of colleges of education) of the principals of colleges of education thought that there is no challenge to two years B.Ed. programme. Teachers are available in the department/institute/college corresponding to the strength of admitted students.

Table 4.150

Number and Percentage of Principals of Colleges of Education w. r. t. Management of Two Year B.Ed. Programme

Q. No.	Question	Yes		No	
		N	%	N	%
9.	As compared to one year B.Ed. programme, you have to manage more number of staff and students. How do you manage this?	24	100	0	0

Following are the observations from table 4.150 regarding the management of two years B.Ed. programme by principals of colleges of education;

➢ 100% (24 out of 24 principals of colleges of education) of the principals of colleges of education thought that they managed everything by proper planning and effective scheduling of college activities, prepared an academic calendar for planning and effective scheduling of college activities in advance; strategic management of the staff to carry out different activities; assigned or distributed responsibilities according to the capabilities, talent, expertise and experience of the teacher educators; complete involvement and working as an important/significant team member for easy and effective management; by involving all staff members and fixing their accountability for different tasks by appropriate staffing from time to time; division of students in different houses; and students are guided to select student council which helps in the management of day to day activities in a democratic manner in the college/institutions.

Table 4.151

Number and Percentage of Principals of Colleges of Education w. r. t. Additional

Impact/Influence of Two Years B. Ed. Programme

Q. No.	Question	Yes		No		Neutral	
		N	%	N	%	N	%
10.	As a principal, kindly mention any other impact/influence of two years B.Ed. programme on your good self.	22	92	1	4	1	4

Following are the observations from table 4.151 regarding other impacts/influences of two years B.Ed. programme on principals of colleges of education;

➤ 92% (22 out of 24 principals of colleges of education) of the principals of colleges of education thought that two-year B.Ed. programme broadened their horizon of knowledge; they experienced pressure related to non-availability of eligible teacher educators; lack of co-operation from schools related to various field-based activities and school internship; and focused on maintaining good relations with internship school authorities, community organizations, and NGOs during the sessions of two years B.Ed. programme; they developed a careful, attentive, and visionary approach for holistic development of teacher educators and pupil teachers after the implementation of two years B.Ed. programme; their administrative responsibilities are increased and they experienced more pressure of getting 100% admissions as a result of two years B.Ed. programme; they focused more on practical-based teaching and activity-oriented teaching-learning approach after the implementation of two years B.Ed. programme; and their supervision work increased; administrative skills enhanced; they worked more for establishing collaborations with community and NGO's, and they explored and established more contacts with outside academic experts/professionals.

➤ 4% (1 out of 24 principals of colleges of education) of the principals of colleges of education thought that they did not experience much impact/influence due to two-year B.Ed. programme.

- ➢ 4% (1 out of 24 principals of colleges of education) of the principals of colleges of education did not respond/give their opinion regarding any other impact/influence of two years B.Ed. programme on principals of colleges of education.

Now, the summary of the results as per the qualitative analysis of responses of principals of colleges of education towards the impact of B.Ed. programme, are pointwise mentioned below:

- ➢ 92% (22 out of 24 principals of colleges of education) and 8% (2 out of 24 principals of colleges of education) of the principals of colleges of education are in favour of and against respectively the two years B.Ed. programme

- ➢ 83% (20 out of 24 principals of colleges of education) and 17% (4 out of 24 principals of colleges of education) of the principals of colleges of education think that there is significant and not much impact respectively on their administrative responsibilities due to the two year B.Ed. programme.

- ➢ 75% (18 out of 24 principals of colleges of education) and 25% (6 out of 24 principals of colleges of education) of the principals of colleges of education think that there are various types of pressures and there is no pressure/are no new responsibilities at all respectively on them after the implementation of two years B.Ed. programme.

- ➢ 67% (16 out of 24 principals of colleges of education) and 33% (8 out of 24 principals of colleges of education) of the principals of colleges of education think that their various management competencies have enhanced and are not much influenced/remain the same after the implementation of two years B.Ed. programme.

- ➢ 54% (13 out of 24 principals of colleges of education); 33% (8 out of 24 principals of colleges of education) and 13% (3 out of 24 principals of colleges of education) of the principals of colleges of education think that during 18 weeks long teaching internship of two years B.Ed. programme, there is positive

influence; negative influence, and not much change respectively in their relational and supervisory responsibilities.

➢ 75% (18 out of 24 principals of colleges of education); 17% (4 out of 24 principals of colleges of education); and 8% (2 out of 24 principals of colleges of education) of the principals of colleges of education think that they managed more administrative as well as professional activities; they are facing a challenge in the arrangement of the schools for organization, conduction, and supervision of the school internship; and there is not much change in them or they are not influenced at all respectively in the two years B.Ed. programme.

➢ 96% (23 out of 24 principals of colleges of education) and 4% (1 out of 24 principals of colleges of education) of the principals of colleges of education think that various initiative steps and no initiative step respectively are taken for the employability of pupil teachers in the two years B.Ed. programme.

➢ 68% (16 out of 24 principals of colleges of education) of the principals of colleges of education think that they are facing various challenges in getting eligible, capable, competent, qualified, trained, professional, and skilled teacher educators as per norms as two-year B.Ed. programme requires more number of teacher educators. On the other hand, 11% (3 out of 24 principals of colleges of education) of the principals of colleges of education think that there is no challenge because teachers are available in the department/institute/college corresponding to the strength of admitted students.

➢ 100% (24 out of 24 principals of colleges of education) of the principals of colleges of education think that they managed everything by proper planning and effective scheduling of all the department/institute/college activities.

➢ 92% (22 out of 24 principals of colleges of education) and 4% (1 out of 24 principals of colleges of education) of the principals of colleges of education think that they experienced significant and not much impact/influence respectively of two years B.Ed. programme on them. But 4% (1 out of 24 principals of colleges of education) of the principals of colleges of education did not respond/give their

opinion regarding any other impact/influence of two years B.Ed. programme on principals of colleges of education.

On the whole, it has been concluded that there is a significant decline in the admission of candidates in B.Ed. programme due to the duration (i.e. two years) of the programme immediately after the implementation of two year B.Ed. programme in totality. Now, getting candidates for doing two-year B.Ed. programme is very difficult as very few students are ready to spare their two years for this programme. Though it gives ample scope of practice teaching and improving one's skills, yet many times the syllabus seems to be stretched for the semester and is completed before the stipulated time. Moreover, for field engagement programme, and internship programme schools do not co-operate. Two-year B.Ed. programme initially was not purely accepted by our society. But, in the larger interest of students, it is more efficient and practical. Two years span gives time to the opening of employment opportunities. Introduction of new subjects in two years B.Ed. programme broadens the individuals' horizon of knowledge. Two-year B.Ed. programme is important for developing professional skills of pupil teachers. The curriculum is planned interestingly, but the actual teaching-learning process is faulty. The shortage of teacher educators, lack of proper facilities in the colleges, lack of co-operation by all type of schools make the programme a challenge for a principal of a college of education. Although good relations are maintained by the colleges of education with stakeholders and more involvement of schools of the city is sought. There is more pressure of exams on pupil teachers. Participation of pupil teachers in extra-curricular activities has also been decreased. There is a requirement for a more visionary approach. On the other hand, it is a good programme to develop skills and competencies among pupil teachers. It makes pupil teachers aware of the practical aspects of the teaching-learning process. There is no pressure to cover the syllabus as the whole course is spread over four semesters. Students and teachers relationship becomes more interactive which leads to more learning. It develops better teachers for the future. Principals' supervision work, administrative work, responsibility to collaborate with the community, contacts

with outside academic experts/professionals have increased. It has enhanced various professional skills and an activity-oriented teaching-learning approach among teacher educators and administrators is instilled. It enhanced the management skills of administrators. One can have the experience of teaching out-of-the-box. There are ample opportunities to interact with the various NGOs or community servers to contribute more towards their goals which contribute towards the development of humane teachers. Careful efforts have been made for the holistic development of pupil teachers. It is more convenient to organize social, cultural, and academic events in two years B.Ed. programme. So, overall two-year B. Ed. programme is more beneficial for pupil teachers, teacher educators, principals of colleges of education, and quality up-gradation of school education in the coming future.

Conclusion

Nataraja (2016), Srilatha (2016), Tamang (2018), and Gupta and Rakwal (2020) have found similar results as teacher trainees perceived the positive impact of two-year B.Ed. programme whereas Sao and Behera (2016) have found that the B.Ed. student-teachers have an average attitude towards two–year B.Ed. programme. Contrary to these results Sudha (2017) found that two years B.Ed. programme was favored by teacher educators and not favored by teacher trainees.

Next, the analysis of total scores, factorwise analysis of scores, dimensionwise analysis of scores, and statementwise analysis of scores of stakeholders i.e. pupil teachers, teacher educators, and principals of colleges of education have been done to study the impact of B.Ed. programme on stakeholders i.e. pupil teachers, teacher educators, and principals of colleges of education with respect to state, university, and type of institution.

4.2 IMPACT OF B.ED. PROGRAMME ON THE STAKEHOLDERS WITH RESPECT TO (i) STATE, (ii) UNIVERSITY, AND (iii) TYPE OF INSTITUTION

The second objective was to study the impact of B.Ed. programme (IBP) on the stakeholders (i.e. pupil teachers, teacher educators, and principals of colleges of education) with respect to (i) state, (ii) university, and (iii) type of Institution/college of education (TOI). The data was collected from all the stakeholders. To attain the stated objective, the data was analyzed to ascertain the impact of B.Ed. programme in total, factorwise, dimensionwise and statementwise.

Therefore,

1) Firstly, Two-way (3 x 3) ANOVA was applied for computing and comparing the significance of differences in means to study the main and interaction effects of state and type of Institution regarding the impact of B.Ed. programme on stakeholders by taking (i) total scores, (ii) factorwise scores, and (iii) dimensionwise scores.

2) Secondly, a t-test was applied for computing and comparing the significance of differences in means to study the impact of B.Ed. programme on stakeholders with respect to the type of university by taking (i) total scores, (ii) factorwise scores, and (iii) dimensionwise scores.

3) Thirdly, χ^2 test was applied for computing and comparing the significance of differences in observed and expected frequencies to study the impact of B.Ed. programme on stakeholders with respect to the state, university, and type of Institution for statementwise scores.

4.2.1 IMPACT OF B.ED. PROGRAMME ON PUPIL TEACHERS WITH RESPECT TO (i) STATE, (ii) UNIVERSITY, AND (iii) TYPE OF INSTITUTION

The evaluation scale of the impact of B.Ed. programme (ESIBP-PTs) was filled by pupil teachers (N = 1436) of GCE (N = 459), GIACE (N = 394) and SFCE (N = 583) affiliated to SGU (N = 1286) and PU (N = 150) of Punjab (N = 641), Himachal Pradesh (N = 223) and Haryana (N = 572).

A Two-way (3 x 3) ANOVA was applied for computing and comparing the significance of differences in means to study the main and interaction effects of state at 3 levels (PB, HP, and HR) and impact of B.Ed. programme at 3 levels (GCE, GIACE, and SFCE) on the impact of B.Ed. programme on pupil teachers on the data taken as (i) total scores, (ii) factorwise scores, and (iii) dimensionwise scores respectively.

4.2.1.1 Effect of State and Type of Institution on the Impact of B.Ed. Programme on Pupil Teachers (Total Scores)

A two-way ANOVA, i.e., 3 (levels of state) and 3 (levels of institution), was applied to study the effect of two independent variables i.e., state and type of institution (TOI) on a single dependent variable i.e., the impact of B.Ed. programme (IBP) on pupil teachers on the data obtained in terms of rating scores of pupil teachers on ESIBP (total scores) after the computation of means and standard deviations for each level. The term state, here, refers to three states i.e., the state of Punjab (PB), Himachal Pradesh (HP), and Haryana (HR), and the term type of institution (TOI), here, refers to three types of institutions i.e., the government (GCE), grant-in-aid (GIACE) and self-financed (SFCE) colleges of education (table 4.152).

The significance of differences between means of the impact of B.Ed. programme, in the case of pupil teachers with respect to state and type of institution, have been computed, compared, and tested against the following null hypotheses:

H_o: There is no significant main effect of state on the impact of B.Ed. programme on pupil teachers.

H$_o$: There is no significant main effect of type of institution on the impact of B.Ed. programme on pupil teachers.

H$_o$: There is no significant interaction effect of state and type of institution on the impact of B.Ed. programme on pupil teachers.

Table 4.152

Descriptive Statistics and Summary of Two-Way (3 x 3) ANOVA on the Impact of B.Ed. Programme (<mark>Total Scores</mark>) on Pupil Teachers with respect to State and Type of Institution

Descriptive Statistics				
Category	**Type**	**N**	**Mean**	**SD**
State	HP	223	169.29	23.01
	HR	572	181.13	21.66
	PB	641	182.08	17.39
TOI	GIACE	394	183.66	18.85
	GCE	459	174.82	17.91
	SFCE	583	180.90	22.84
Summary of Two-Way (3 x 3) ANOVA				
SOV	**df**	**SS**	**MS**	**F-ratio**
State	2	17172.33	8586.16	**23.56****
TOI	2	21230.94	10615.47	**29.12****
State x TOI	4	44369.20	11092.30	**30.43****
Error	1427	520147.67	364.50	
Total	1435			

$^{**}\alpha = .01$ *and* $^{*}\alpha = .05$

4.2.1.1.1   Main and Interaction Effect of State and Type of Institution on the Impact of B.Ed. Programme (<mark>Total Scores</mark>) on Pupil Teachers

Main Effect of State on the Impact of B.Ed. Programme on Pupil Teachers

There is a significant main effect of state on the impact of B.Ed. programme on pupil teachers of the states of Punjab, Himachal Pradesh, and Haryana, as the value of F $_{State\,(2,\,1427)}$ = 23.56 is significant at α = .01 (table 4.152). Thus, H$_o$ stands not accepted for the effect of state on the impact of B.Ed. programme on pupil teachers.

Hence, the states of Punjab, Himachal Pradesh, and Haryana have a statistically significant impact of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of B.Ed. programme on pupil teachers with respect to the state.

Table 4.153

Means Matrix Showing Significance of Difference in Means regarding the Impact of B.Ed. Programme on Pupil Teachers with respect to State

State			Punjab	Himachal Pradesh	Haryana
	N	**Mean** **SD**	182.08 17.39	169.29 23.01	181.13 21.66
Punjab	641	182.08 17.39	-	**7.58****	.84
Himachal Pradesh	223	169.29 23.01		-	**6.62****
Haryana	572	181.13 21.66			-

$^{**}\alpha = .01$ *and* $^{*}\alpha = .05$

Table 4.153 shows the significant mean differences on the impact of B.Ed. programme (total scores) between the state of Punjab ($M_{PB} = 182.08$) vs Himachal Pradesh ($M_{HP} = 169.29$) favouring Punjab, as the value of $t_{(862)} = 7.58$ is significant at $\alpha = .01$; the state of Haryana ($M_{HR} = 181.13$) vs Himachal Pradesh ($M_{HP} = 169.29$) favouring Haryana, as the value of $t_{(793)} = 6.62$ is significant at $\alpha = .01$; and non-significant mean difference on the impact of B.Ed. programme (total scores) exist between the state of Punjab ($M_{PB} = 182.08$) vs Haryana ($M_{HR} = 181.13$), as the value of $t'_{(1211)} = .84$ is not significant at $\alpha = .05$ (table 4.151). Thus, H_o stands not accepted for the pupil teachers of the state of Punjab vs Himachal Pradesh and Haryana vs Himachal whereas H_o stands accepted for pupil teachers of the state of Punjab vs Haryana.

Hence, the impact of B.Ed. programme is significantly more in Punjab and Haryana states than that of Himachal Pradesh whereas both Punjab and Haryana do not have a significant difference on the impact of B.Ed. programme on pupil teachers.

Main Effect of Type of Institution on the Impact of B.Ed. Programme on Pupil Teachers

There is a significant main effect of type of institution on the impact of B.Ed. programme on pupil teachers of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{TOI (2, 1427)} = 29.12$ is significant at $\alpha = .01$ (table 4.152). Thus, H_o stands not accepted for the effect of type of institution on the impact of B.Ed. programme on pupil teachers.

Hence, the government, grant-in-aid and self-financed colleges of education have a statistically significant impact of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of B.Ed. programme on pupil teachers with respect the type of institution.

Table 4.154

Means Matrix Showing Significance of Difference in Means regarding the Impact of B.Ed. Programme (Total Scores) on Pupil Teachers with respect to Type of Institution

TOI ⟶			Government	Grant-in Aid	Self-Financed
↓	N	Mean ⟶ SD ↓	174.82 17.91	183.66 18.85	180.90 22.84
Government	459	174.82 17.91	-	**6.99****	**4.82****
Grant-in Aid	394	183.66 18.85		-	**2.06***
Self-Financed	583	180.90 22.84			-

$^{**}\alpha = .01$ *and* $^{*}\alpha = .05$

Table 4.154 shows the significant mean differences on the impact of B.Ed. programme between the grant-in-aid ($M_{GIACE} = 183.66$) vs government ($M_{GCE} = 174.82$) colleges of education favouring the grant-in-aid colleges of education, as the value of $t_{(851)} = 6.99$ is significant at $\alpha = .01$; self-financed ($M_{SFCE} = 180.90$) vs government ($M_{GCE} = 174.82$)

colleges of education favouring the self-financed colleges of education, as the value of t $_{(1040)}$ = 4.82 is significant at α = .01; and the grant-in-aid (M_{GIACE} = 26.39) vs self-financed (M_{SFCE} = 26.18) colleges of education favouring the grant-in-aid colleges of education, as the value of t $_{(975)}$ = 2.06 is significant at α = .05. Thus, H_o stands not accepted for pupil teachers in government colleges of education vs grant-in-aid colleges of education; the government colleges of education vs self-financed colleges of education; and the grant-in-aid colleges of education vs self-financed colleges of education comparisons.

Hence, both the grant-in-aid colleges of education and self-financed colleges of education have significantly more effect than government colleges of education on the impact of B.Ed. programme on pupil teachers; and the grant-in-aid colleges of education have significantly more effect than the self-financed colleges of education on the impact of B.Ed. programme on pupil teachers.

Interaction Effect of State and Type of Institution on the Impact of B.Ed. Programme on Pupil Teachers

In Table 4.152, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of B.Ed. programme on pupil teachers is found to be significant, as the value of F $_{State\ x\ TOI\ (4,\ 1427)}$ = 30.43 is significant at α = .01. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of B.Ed. programme on pupil teachers.

Table 4.155

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of B.Ed. Programme on Pupil Teachers

Type of Institution ↓	State →	Punjab	Himachal Pradesh	Haryana
Government		$N_1 = 194$ $M_1 = 178.50$	$N_2 = 91$ $M_2 = 166.66$	$N_3 = 174$ $M_3 = 174.98$
Grant-in Aid		$N_4 = 182$ $M_4 = 176.81$	$N_5 = 50$ $M_5 = 185.96$	$N_6 = 162$ $M_6 = 190.65$
Self-Financed		$N_7 = 265$ $M_7 = 188.31$	$N_8 = 82$ $M_8 = 162.04$	$N_9 = 236$ $M_9 = 179.12$

N = Number of Pupil Teachers and M = Mean Scores

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of B.Ed. programme on pupil teachers varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.155.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of B.Ed. programme on pupil teachers.

Table 4.156

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of B.Ed. Programme on Pupil Teachers

Type of Institution – Government Colleges of Education (GCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	↓**Mean**⟶	178.50	166.66	174.98
Punjab	178.50	-	**11.84****	3.52
Himachal Pradesh	166.66		-	**8.32***
Haryana	174.98			**-**
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	↓**Mean**⟶	176.81	185.96	190.65
Punjab	176.81	-	**9.15****	**13.84****
Himachal Pradesh	185.96		-	4.69
Haryana	190.65			**-**
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	↓**Mean**⟶	188.31	162.04	179.12
Punjab	188.31	-	**26.27****	**9.19****
Himachal Pradesh	162.04		-	**17.08****
Haryana	179.12			**-**

State - Punjab (PB)				
Type of Institution ——→		Government	Grant-in Aid	Self-Financed
	↓Mean↗	178.50	176.81	188.31
Government	178.50	-	1.69	**9.81****
Grant-in Aid	176.81		-	**11.5****
Self-Financed	188.31			**-**
State - Himachal Pradesh (HP)				
Type of Institution ——→		Government	Grant-in Aid	Self-Financed
	↓Mean↗	166.66	185.96	162.04
Government	166.66	-	**19.03****	4.62
Grant-in Aid	185.96		-	**23.92****
Self-Financed	162.04			**-**
State – Haryana (HR)				
Type of Institution ——→		Government	Grant-in Aid	Self-Financed
	↓Mean↗	174.98	190.65	179.12
Government	174.98	-	**15.67****	4.14
Grant-in Aid	190.65		-	**11.53****
Self-Financed	179.12			**-**

$q_{k\ at\ .05} = 4.17$ & HSD or $Q_{critical\ at\ .05} = 7.21$; $q_{k\ at\ .05} = 4.88$ & HSD or $Q_{critical\ at\ .01} = 8.44$; $^{**}\alpha = .01\ and\ ^{*}\alpha = .05$

The comparisons of means for state at government colleges of education (GCE), state at grant-in-aid colleges of education (GIACE), state at self-financed colleges of education (SFCE), type of institution at Punjab (PB), type of institution at Himachal Pradesh (HP) and type of institution at Haryana (HR) respectively which are significant as is shown (in bold) in table 4.156.

For significant interaction of State x Type of Institution, Tukey's HSD test shows that -

➢ For impact of B.Ed. programme on pupil teachers w. r. t. state (table 4.156 and figure 4.101-A) (i) at GCE comparisons of means - PB > HP (M $_{PB – HP}$ = 11.84**) is significant at α = .01 and HR > HP (M $_{HR – HP}$ = 8.32*) is significant at α = .05; and PB > HR (M $_{PB – HR}$ = 3.52 ns) is non significant at α = .05; (ii) at GIACE comparisons of means - HP > PB (M $_{HP – PB}$ = 9.15**) and HR > PB (M $_{HR –PB}$ = 13.84**) are significant at α = .01 and HR > HP (M $_{HR – HP}$ = 4.69 ns) is non significant at α = .05; and (iii) at SFCE comparisons of means - PB > HP (M $_{PB – HP}$ = 26.27**) and PB > HR (M $_{PB – HR}$ = 9.19**) and HR > HP (M $_{HR – HP}$ = 17.08)

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are significant at $\alpha = .01$. Thus, the statistically significant effect of state depends on type of institution.
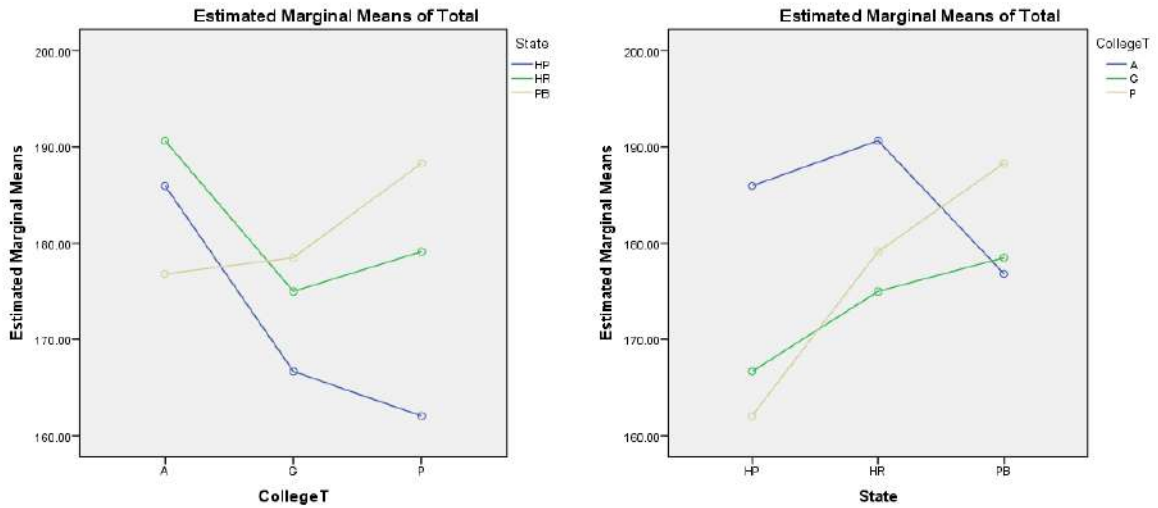
4.101-A (College = Constant)	**4.101-B (State = Constant)**

Figure 4.101 Interaction Effect of State (4.101-A) and Type of Institution (4.101-A) on the Impact of B.Ed. Programme on Pupil Teachers

➢ For impact of B.Ed. programme on pupil teachers w. r. t. type of institution (table 4.156 and figure 4.101-B) (i) at PB comparisons SFCE > GCE ($M_{SFCE - GCE} = 9.81^{**}$) and SFCE > GIACE ($M_{SFCE - GIACE} = 11.50^{**}$) are significant at $\alpha = .01$ whereas GCE > GIACE ($M_{GCE - GIACE} = 1.69$ ns) is non significant at $\alpha = .05$ (ii) at HP comparisons of means - GIACE > SFCE ($M_{GIACE - SFCE} = 23.92^{**}$) and GIACE > GCE ($M_{GIACE - GCE} = 19.03^{**}$) are significant at $\alpha = .01$ and GCE > SFCE ($M_{GCE - SFCE} = 4.62$ ns) is non significant at $\alpha = .05$; and (iii) at HR comparisons of means - GIACE > GCE ($M_{GIACE - GCE} = 15.67^{**}$) and GIACE > SFCE ($M_{GIACE - SFCE} = 11.53^{**}$) are significant at $\alpha = .01$ and SFCE > GCE ($M_{SFCE - GCE} = 4.14$ ns) is non significant at $\alpha = .05$. Thus, the statistically significant effect of type of institution depends on state.

Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of B.Ed. programme on pupil teachers.

Hence, both state and type of institution independently as well as together have a significant effect on the impact of B.Ed. programme on pupil teachers (total scores).

4.2.1.1.2 Effect of Type of Self-Financed Institution on the Impact of B.Ed. Programme on Pupil Teachers (Total Scores)

t-test (independent samples) was applied to study the effect of a single independent variable i.e., type of self-financed institution on a single dependent variable i.e., the impact of B.Ed. programme (IBP) on pupil teachers on the data obtained in terms of rating scores of pupil teachers on ESIBP (total scores) after the computation of means and standard deviations. The term type of self-financed institution, here, refers to two types of self-financed institutions i.e., self-financed institutions affiliated to the state government (SFISGU) and self-financed institutions affiliated to state government and private universities (SFIPU) (table 4.156A).

Table 4.156A

Means Matrices Showing Significance of Difference in Means regarding the Impact of B.Ed. Programme on Pupil Teachers with respect to Type of Self-Financed Institution

Type of Self-Financed Institution $\longrightarrow$			SFISGU	SFIPU
$\downarrow$	N	Mean $\longrightarrow$ SD $\downarrow$	178.39 24.09	188.13 16.84
SFISGU	433	178.39 24.09	-	**5.42**[**]
SFIPU	150	188.13 16.84		-

[**]$\alpha = .01$ and [*]$\alpha = .05$

SFISGU (Self-financed institutions affiliated with state government universities) and SFIPU (Self-financed institutions affiliated with private universities)

The significance of the difference between means of the impact of B.Ed. programme in case of pupil teachers with respect to the type of self-financed institution has been computed, compared (table 4.156A), and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of B.Ed. programme on pupil teachers with respect to the type of self-financed institution.

The comparison of means on the impact of B.Ed. programme on pupil teachers is between the self-financed institutions affiliated to state government universities $(M_{SFISGU} = 178.39)$ vs self-financed institutions affiliated to private universities $(M_{SFIPUU} = 188.13)$, as the value of t $_{(531)} = 5.42$ is significant at $\alpha = .01$ favouring self-financed institutions affiliated to private universities (table 4.156A). Therefore, the higher mean score of the impact of B.Ed. programme for pupil teachers of the self-financed institutions affiliated with private universities indicates that self-financed institutions affiliated with private universities have significantly more effect than self-financed institutions affiliated with state government universities on the impact of B.Ed. programme on pupil teachers. Thus, H$_o$ stands not accepted for the pupil teachers of the self-financed institutions affiliated with state government universities vs self-financed institutions affiliated with private universities.

Hence, the type of self-financed institution has a significant effect on the impact of B.Ed. programme on pupil teachers.

4.2.1.2 Effect of University on the Impact of B.Ed. Programme on Pupil Teachers (Total Scores)

t-test (independent samples) was applied to study the effect of a single independent variable i.e., university on a single dependent variable i.e., the impact of B.Ed. programme (IBP) on pupil teachers on the data obtained in terms of rating scores of pupil teachers on ESIBP (total scores) after the computation of means and standard deviations.

Table 4.157

Means Matrices Showing Significance of Difference in Means regarding the Impact of B.Ed. Programme on Pupil Teachers with respect to University

University ⟶				SGU	PU
↓	N	Mean ⟶ SD ↓		178.73 20.76	188.13 16.84
SGU	1286	178.73 20.76		-	6.31**
PU	150	188.13 16.84			-

$^{**}\alpha = .01$ *and* $^{*}\alpha = .05$; *SGU (State government universities) and PU (Private universities)*

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The term university, here, refers to two universities i.e., state government universities (SGU) and private universities (PU) (table 4.157).

The comparison of means on the impact of B.Ed. programme on pupil teachers is between the state government universities $(M_{SGU} = 178.73)$ vs private universities $(M_{PU} = 188.13)$, as the value of t $_{(1434)} = 6.31$ is significant at $\alpha = .01$ favouring private universities (table 4.157). Therefore, the higher mean score of the impact of B.Ed. programme for pupil teachers of the private universities indicates that private universities have significantly more effect than state government universities on the impact of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for the pupil teachers of the state government universities vs private universities.

Hence, type of university has a significant effect on the impact of B.Ed. programme on pupil teachers.

4.2.1.3 Effect of State and Type of Institution on the Factorwise Impact of B.Ed. Programme on Pupil Teachers

A two-way ANOVA, i.e., 3 (levels of state) and 3 (levels of institution), was applied to study the effect of two independent variables i.e., state and type of institution (TOI) on a single dependent variable i.e., the factorwise impact of B.Ed. programme on pupil teachers on the data obtained in terms of rating scores of pupil teachers on ESIBP (factorwise data) after the computation of means and standard deviations for each level. The term state, here, refers to three states i.e., the state of Punjab (PB), Himachal Pradesh (HP), and Haryana (HR), and the term type of institution (TOI), here, refers to three types of institutions i.e., the government (GCE), grant-in-aid (GIACE) and self-financed (SFCE) colleges of education (table 4.158).

The significance of differences between means of the impact of four evaluation factors i.e., Context, Input, Process and Product factors of B.Ed. programme, in the case of pupil teachers with respect to state and type of institution, have been computed, compared, and tested against the following null hypotheses:

H$_o$:   There is no significant main effect of state on the factorwise impact of B.Ed. programme on pupil teachers.

Table 4.158
Descriptive Statistics and Summary of Two-Way (3 x 3) ANOVA on the Factorwise Impact of B.Ed. Programme on Pupil Teachers with respect to State and Type of Institution (TOI)

Factors	Category	Type	N	Mean	SD	SOV	df	SS	MS	F-ratio
Context	State	HP	223	25.88	2.83	State	2	3.61	1.81	.22
		HR	572	25.88	3.10	TOI	2	275.12	137.56	**16.56****
		PB	641	26.01	2.93	State x TOI	4	560.20	140.05	**16.86****
	TOI	GIACE	394	26.39	2.63	Error	1427	11856.36	8.31	
		GCE	459	25.25	2.80	Total	1435	12751.48		
		SFCE	583	26.18	3.25					
Input	State	HP	223	39.86	6.57	State	2	2701.37	1350.69	**47.56****
		HR	572	44.31	6.05	TOI	2	1910.38	955.19	**33.63****
		PB	641	44.78	4.80	State x TOI	4	3627.36	906.841	**31.93****
	TOI	GIACE	394	45.04	5.30	Error	1427	40530.68	28.40	
		GCE	459	42.51	5.10	Total	1435	49431.82		
		SFCE	583	44.05	6.57					
Process	State	HP	223	54.17	9.18	State	2	3220.99	1610.50	**28.19****
		HR	572	59.46	8.36	TOI	2	3264.27	1632.13	**28.57****
		PB	641	59.28	6.87	State x TOI	4	5204.33	1301.08	**22.78****
	TOI	GIACE	394	60.11	7.43	Error	1427	81511.79	57.12	
		GCE	459	56.67	7.71	Total	1435	93940.32		
		SFCE	583	58.99	8.53					
Product	State	HP	223	49.37	7.03	State	2	603.34	301.67	**7.97****
		HR	572	51.49	6.70	TOI	2	904.15	452.07	**11.94****
		PB	641	52.01	5.81	State x TOI	4	3534.86	883.72	**23.33****
	TOI	GIACE	394	52.13	5.85	Error	1427	54044.92	37.87	
		GCE	459	50.39	5.58	Total	1435	59321.84		
		SFCE	583	51.68	7.29					

**$\alpha = .01$ *and* *$\alpha = .05$

H$_o$: There is no significant main effect of type of institution on the factorwise impact of B.Ed. programme on pupil teachers.

H$_o$: There is no significant interaction effect of state and type of institution on the factorwise impact of B.Ed. programme on pupil teachers.

4.2.1.3.1 Main and Interaction Effect of State and Type of Institution on the Impact of Context Factor of B.Ed. Programme on Pupil Teachers

Main Effect of State on the Impact of Context Factor of B.Ed. Programme on Pupil Teachers

There is a non-significant main effect of state on the impact of Context factor of B.Ed. programme on pupil teachers of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{Context - State (2, 1427)} = .22$ is not significant at $\alpha = .05$ (table 4.158). Thus, H$_o$ stands accepted for the effect of state on the impact of the Context factor of B.Ed. programme on pupil teachers.

Hence, the states of Punjab, Himachal Pradesh, and Haryana do not have significant differences on the impact of the Context factor of B.Ed. programme on pupil teachers.

Main Effect of Type of Institution on the Impact of Context Factor of B.Ed. Programme on PTs

There is a significant main effect of type of institution on the impact of Context factor of B.Ed. programme on pupil teachers of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{Context - TOI (2, 1427)} = 16.56$ is significant at $\alpha = .01$ (table 4.158). Thus, H$_o$ stands not accepted for the effect of type of institution on the impact of Context factor of B.Ed. programme on pupil teachers.

Hence, the government, grant-in-aid, and self-financed colleges of education have a statistically significant impact of the Context factor of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means (table 4.159) and tested against the following null hypothesis:

H$_o$: There is no significant difference in the impact of Context factor of B.Ed. Programme on pupil teachers with respect to the type of institution.

The table 4.159 shows the significant mean differences on the impact of Context factor of B.Ed. programme between the grant-in-aid (M$_{GIACE}$ = 26.39) vs government (M$_{GCE}$ = 25.25) colleges of education favouring the grant-in-aid colleges of education, as the value of t $_{(851)}$ = 5.55 is significant at α = .01; the self-financed (M$_{SFCE}$ = 26.18) vs government (M$_{GCE}$ = 25.25) colleges of education favouring the self-financed colleges of education, as the value of t $_{(1040)}$ = 4.84 is significant at α = .01; and non-significant mean difference on the impact of Context factor of B.Ed. programme exist between the grant-in-aid (M$_{GIACE}$ = 26.39) vs self-financed (M$_{SFCE}$ = 26.18) colleges of education, as the value of t $_{(975)}$ = 1.00 is not significant at α = .05.

Table 4.159

Means Matrix Showing Significance of Difference in Means regarding the Impact of Context Factor of B.Ed. Programme on PTs with respect to Type of Institution

Type of Institution ⟶			Government	Grant-in Aid	Self-Financed
↓	N	Mean⟶ SD ↓	25.25 2.80	26.39 2.63	26.18 3.25
Government	459	25.25 2.80	-	**5.55****	**4.84****
Grant-in Aid	394	26.39 2.63		-	1.00
Self-Financed	583	26.18 3.25			-

***α = .01 and* **α = .05*

Thus, H$_o$ stands not accepted for pupil teachers in government colleges of education vs grant-in-aid colleges of education; and the government colleges of education vs self-financed colleges of education comparisons whereas H$_o$ stands accepted for pupil teachers in the grant-in-aid colleges of education vs self-financed colleges of education comparison.

Hence, both the grant-in-aid colleges of education and self-financed colleges of education have significantly more effect than government colleges of education on the impact of Context factor of B.Ed. programme on pupil teachers whereas both the grant-in-aid

colleges of education and self-financed colleges of education do not have significant difference on the impact of Context factor of B.Ed. programme on pupil teachers.

Interaction Effect of State and Type of Institution on the Impact of Context Factor of B.Ed. Programme on PTs

In table 4.158, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on Context factor of B.Ed. Programme on pupil teachers is found to be significant, as the value of $F_{Context - State \times TOI (4, 1427)} = 16.86$ is significant at $\alpha = .01$ (table 4.158). Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of Context factor of B.Ed. programme on pupil teachers.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of Context factor of B.Ed. Programme on pupil teachers varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.160 below:

Table 4.160

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Context Factor of B.Ed. Programme on Pupil Teachers

Type of Institution ↓ State →	Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 194$ $M_1 = 25.24$	$N_2 = 91$ $M_2 = 25.56$	$N_3 = 174$ $M_3 = 25.10$
Grant-in Aid	$N_4 = 182$ $M_4 = 25.49$	$N_5 = 50$ $M_5 = 26.94$	$N_6 = 162$ $M_6 = 27.23$
Self-Financed	$N_7 = 265$ $M_7 = 26.93$	$N_8 = 82$ $M_8 = 25.60$	$N_9 = 236$ $M_9 = 25.53$

N = Number of Pupil Teachers and M = Mean Scores

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

Table 4.161

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Context Factorof B.Ed. Programme on Pupil Teachers

Type of Institution – Government Colleges of Education (GCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	**↓Mean**⟶	25.24	25.56	25.10
Punjab	25.24	-	.32	.14
Himachal Pradesh	25.56		-	.46
Haryana	25.10			**-**
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	**↓Mean**⟶	25.49	26.94	27.23
Punjab	25.49	-	**1.45**[**]	**1.74**[**]
Himachal Pradesh	26.94		-	.29
Haryana	27.23			**-**
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	**↓Mean**⟶	26.93	25.60	25.53
Punjab	26.93	-	**1.33**[**]	**1.40**[**]
Himachal Pradesh	25.60		-	.07
Haryana	25.53			**-**
State - Punjab (PB)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	**↓Mean**⟶	25.24	25.49	26.93
Government	25.24	-	.25	**1.69**[**]
Grant-in Aid	25.49		-	**1.44**[**]
Self-Financed	26.93			**-**
State - Himachal Pradesh (HP)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	**↓Mean**⟶	25.56	26.94	25.60
Government	25.56	-	**1.38**[**]	.04
Grant-in Aid	26.94		-	**1.34**[**]
Self-Financed	25.60			**-**
State – Haryana (HR)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	**↓Mean**⟶	25.10	27.23	25.53
Government	25.10	-	**2.13**[**]	.43
Grant-in Aid	27.23		-	**1.70**[**]
Self-Financed	25.53			**-**

$q_{k\ at\ .05}$ = 4.17 & HSD or Q $_{critical\ at\ .05}$ = 1.09; $q_{k\ at\ .05}$ = 4.88 & HSD or Q $_{critical\ at\ .01}$ = 1.27; [**]α = .01 and [*] α = .05

H$_o$:   There is no significant interaction effect of state and type of institution on the impact of Context factor of B.Ed. Programme on pupil teachers.

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.161.

self-financed colleges of education government colleges of education grant-in-aid colleges of education.
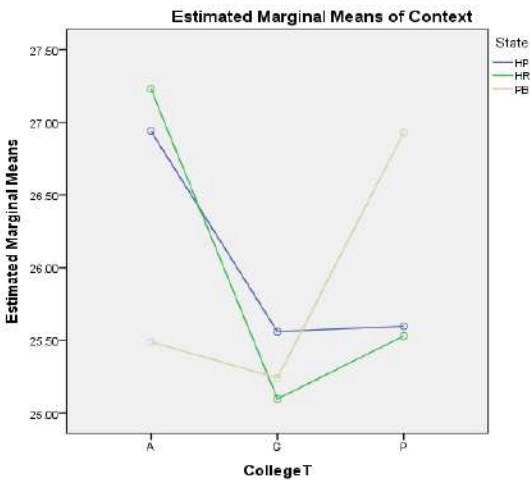
4.102-A (College =Constant)   4.102-B (State=Constant)

Figure 4.102   Interaction Effect of State (4.102-A) and Type of Institution (4.102-B) on the Impact of Context Factor of B.Ed. Programme on Pupil Teachers

For significant interaction of State x Type of Institution, Tukey's HSD test shows that -

➤ For impact of B.Ed. programme on pupil teachers w. r. t. state (table 4.161 and figure 4.102-A) (i) at GCE comparisons of means - HP > PB (M $_{HP - PB}$ = .32 ns); HP > HR (M $_{HP - HR}$ = .46 ns); and PB > HR (M $_{PB - HR}$ = .14 ns) are non significant at α = .05; (ii) at GIACE comparisons of means - HP > PB (M $_{HP - PB}$ = 1.45**) and HR > PB (M $_{HR - PB}$ = 1.74**) are significant at α = .01 and HR > HP (M $_{HR - HP}$ = .29 ns) is not significant at α = .05; and (iii) at SFCE comparisons of means - PB > HP (M $_{PB - HP}$ = 1.33**) and PB > HR (M $_{PB - HR}$ = 1.40**) are

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significant at $\alpha = .01$; and HP > HR (M $_{HP-HR}$ = .07 ns) is not significant at α = .05.

Thus, the significant effect of the state depends on the type of institution.

➢ For impact of B.Ed. programme on pupil teachers w. r. t. Type of Institution (table 4.161 and figure 4.102-B) (i) at PB comparisons SFCE > GCE (M $_{SFCE-GCE}$ = 1.69**) and SFCE > GIACE (M $_{SFCE-GIACE}$ = 1.44**) are significant at α = .01 whereas GIACE > GCE (M $_{GIACE-GCE}$ = .25 ns) is not significant at α = .05 (ii) at HP comparisons of means - GIACE > SFCE (M $_{GIACE-SFCE}$ = 1.34**) and GIACE > GCE (M $_{GIACE-GCE}$ = 1.38**) are significant at α = .01 whereas SFCE > GCE (M $_{SFCE-GCE}$ = .04 ns) is not significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE (M $_{GIACE-GCE}$ = 2.13**) and GIACE > SFCE (M $_{GIACE-SFCE}$ = 1.70**) are significant at α = .01 whereas SFCE > GCE (M $_{SFCE-GCE}$ = .43 ns) is not significant at α = .05.

Thus, the statistically significant effect of the type of institution depends on the state.

Thus, H$_o$ stands not accepted for the interaction effect of state and type of institution on the impact of Context factor of B.Ed. Programme on pupil teachers.

Hence, the state, independently, has no effect but the type of institution independently as well as both state and type of institution together have a significant effect on the impact of Context factor of B.Ed. Programme on pupil teachers.

4.2.1.3.2   Main and Interaction Effect of State and Type of Institution on the Impact of Input Factor of B. Ed. Programme on Pupil Teachers

Main Effect of State on the Impact of Input Factor of B.Ed. Programme on Pupil Teachers

There is a significant main effect of state on the impact of Input factor of B.Ed. programme on pupil teachers of the state of Punjab, Himachal Pradesh, and Haryana, as the value of F $_{Input-State\ (2,\ 1427)}$ = 47.56 is significant at α = .01 (table 4.158). Thus, H$_o$ stands not accepted for the effect of state on the impact of Input factor of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of Input factor of B.Ed. programme on pupil teachers with respect to the state.

Table 4.162

Means Matrix Showing Significance of Difference in Means regarding the Input Factor of B.Ed. Programme on Pupil Teachers with respect to State

State	N	Mean SD	Punjab	Himachal Pradesh	Haryana
			44.78	39.86	44.31
			4.80	6.57	6.05
Punjab	641	44.78 4.80	-	11.18**	1.52
Himachal Pradesh	223	39.86 6.57		-	10.11**
Haryana	572	44.31 6.05			-

$^{**}\alpha = .01$ and $^{*}\alpha = .05$

Table 4.162 shows the significant mean differences on the impact of the Input factor of B.Ed. programme between the state of Punjab ($M_{PB} = 44.78$) vs Himachal Pradesh ($M_{HP} = 39.86$) favouring Punjab, as the value of $t_{(862)} = 11.18$ is significant at $\alpha = .01$; the state of Haryana ($M_{HR} = 44.31$) vs Himachal Pradesh ($M_{HP} = 39.86$) favouring Haryana, as the value of $t_{(793)} = 10.11$ is significant at $\alpha = .01$; and non-significant mean difference on the impact of Input factor of B.Ed. programme exist between the state of Punjab ($M_{PB} = 44.78$) vs Haryana ($M_{HR} = 44.31$), as the value of $t_{(1211)} = 1.52$ is not significant at $\alpha = .05$. Thus, H_o stands not accepted for the pupil teachers of the state of Punjab vs Himachal Pradesh and Haryana vs Himachal whereas H_o stands accepted for the pupil teachers of the state of Punjab vs Haryana.

Hence, the impact of the Input factor of B.Ed. programme is significantly more in Punjab and Haryana states than that of Himachal Pradesh whereas both Punjab and Haryana do not have significant difference on the impact of Input factor of B.Ed. programme on pupil teachers.

Main Effect of Type of Institution on the Impact of Input Factor of B.Ed. Programme on Pupil Teachers

There is a significant main effect of type of institution on the impact of Input factor of B.Ed. programme on pupil teachers of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{\text{Input - TOI (2, 1427)}} = 36.63$ is significant at $\alpha = .01$ (table 4.158). Thus, H_o stands not accepted for the effect of type of institution on the impact of Input factor of B.Ed. programme on pupil teachers.

Hence, the government, grant-in-aid, and self-financed colleges of education have a statistically significant impact of the Input factor of B.Ed. programme on pupil teachers.

Table 4.163

Means Matrix Showing Significance of Difference in Means regarding the Input Factor of B.Ed. Programme on Pupil Teachers with respect to Type of Institution

Type of Institution ⟶			Government	Grant-in Aid	Self-Financed
⬇	**N**	**Mean ⟶** **SD ⬇**	42.51 5.10	45.04 5.30	44.05 6.57
Government	459	42.51 5.10	-	**5.83**[**]	**4.03**[**]
Grant-in Aid	394	45.04 5.30		-	**2.27**[*]
Self-Financed	583	44.05 6.57			-

[**] $\alpha = .01$ *and* [*] $\alpha = .05$

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means (table 4.163) and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of Input factor of B.Ed. programme on pupil teachers with respect to the type of institution.

Table 4.163 shows the significant mean differences on the impact of the Input factor of B.Ed. programme between the government ($M_{GCE} = 42.51$) vs grant-in-aid ($M_{GIACE} = 45.04$) colleges of education favouring the grant-in-aid colleges of education, as the value of $t_{(851)} = 5.83$ is significant at $\alpha = .01$; the government ($M_{GCE} = 42.51$) vs self-financed ($M_{SFCE} = 44.05$) colleges of education favouring the self-financed colleges of education,

as the value of t $_{(1040)}$ = 4.03 is significant at α = .01; and the grant-in-aid (M_{GIACE} = 45.04) vs self-financed (M_{SFCE} = 44.05) colleges of education favouring the grant-in-aid colleges of education, as the value of t $_{(975)}$ = 2.27 is significant at α = .05 (table 4.163). Thus, H_o stands not accepted for pupil teachers in government colleges of education vs grant-in-aid colleges of education; the government colleges of education vs self-financed colleges of education; and the grant-in-aid colleges of education vs self-financed colleges of education comparisons.

Hence, both the grant-in-aid colleges of education and self-financed colleges of education have significantly more effect than government colleges of education on the impact of Input factor of B.Ed. programme on pupil teachers; and the grant-in-aid colleges of education have significantly more effect than the self-financed colleges of education on the impact of Input factor of B.Ed. programme on pupil teachers.

Interaction Effect of State and Type of Institution on the Impact of Input Factor of B.Ed. Programme on Pupil Teachers

In table 4.156, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of Input factor of B.Ed. Programme on pupil teachers is found to be significant, as the value of F $_{Input - State \, x \, TOI \, (4, 1427)}$ = 31.93 is significant at α = .01 (table 4.158). Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of Input factor of B.Ed. programme on pupil teachers.

Table 4.164

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Input Factor of B.Ed. Programme on Pupil Teachers

Type of Institution ↓ State →	Punjab	Himachal Pradesh	Haryana
Government	N_1 = 194 M_1 = 43.58	N_2 = 91 M_2 = 39.43	N_3 = 174 M_3 = 42.91
Grant-in Aid	N_4 = 182 M_4 = 43.60	N_5 = 50 M_5 = 45.32	N_6 = 162 M_6 = 46.57
Self-Financed	N_7 = 265 M_7 = 46.46	N_8 = 82 M_8 = 37.01	N_9 = 236 M_9 = 43.78

N = Number of Pupil Teachers and M = Mean Scores

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of Input factor of B.Ed. Programme on pupil teachers varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.164.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of Input factor of B.Ed. programme on pupil teachers.

Table 4.165

Means Matrices Showing Significance of Differences in Means of various cells of 3x3 Design w.r.t. the effect of State and Type of Institution regarding the Impact of Input Factorof B.Ed. Programme on Pupil Teachers

Type of Institution – Government Colleges of Education (GCE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean⟶	43.58	39.43	42.91
Punjab	43.58	-	**4.15**[**]	.67
Himachal Pradesh	39.43		-	**3.48**[**]
Haryana	42.91			**-**
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean⟶	43.60	45.32	46.57
Punjab	43.60	-	1.72	**2.97**[**]
Himachal Pradesh	45.32		-	1.25
Haryana	46.57			**-**
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean⟶	46.46	37.01	43.78
Punjab	46.46	-	**9.45**[**]	**2.68**[**]
Himachal Pradesh	37.01		-	**6.77**[**]
Haryana	43.78			**-**

State - Punjab (PB)				
Type of Institution ——→		Government	Grant-in Aid	Self-Financed
↓	↓Mean→	43.58	43.60	46.46
Government	43.58	-	.02	**2.88****
Grant-in Aid	43.60		-	**2.86****
Self-Financed	46.46			**-**
State - Himachal Pradesh (HP)				
Type of Institution ——→		Government	Grant-in Aid	Self-Financed
↓	↓Mean→	39.43	45.32	37.01
Government	39.43	-	**5.89****	**2.42****
Grant-in Aid	45.32		-	**8.31****
Self-Financed	37.01			**-**
State – Haryana (HR)				
Type of Institution ——→		Government	Grant-in Aid	Self-Financed
↓	↓Mean→	42.91	46.57	43.78
Government	42.91	-	**3.66****	.87
Grant-in Aid	46.57		-	**2.79****
Self-Financed	43.78			**-**

$q_{k\,at\,.05} = 4.17$ & HSD or $Q_{critical\,at\,.05} = 2.01$; $q_{k\,at\,.05} = 4.88$ & HSD or $Q_{critical\,at\,.01} = 2.35$; **$\alpha = .01$ and *$\alpha = .05$

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.165.

For significant interaction of State x Type of Institution, Tukey's HSD test shows that -

➤ For impact of B.Ed. programme on pupil teachers w. r. t. state (table 4.165 and figure 4.103-A) (i) at GCE comparisons of means - PB > HP ($M_{PB-HP} = 4.15$**) and HR > HP ($M_{HR-HP} = 3.48$**) are significant at $\alpha = .01$; and PB > HR ($M_{PB-HR} = .67$ ns) is not significant at $\alpha = .05$; (ii) at GIACE comparisons of means - HR > PB ($M_{HR-PB} = 2.97$**) is significant at $\alpha = .01$; HP > PB ($M_{HP-PB} = 1.72$ ns) and HR > HP ($M_{HR-HP} = 1.25$ ns) are non significant at $\alpha = .05$; and (iii) at SFCE comparisons of means - PB > HP ($M_{PB-HP} = 9.45$**); PB > HR ($M_{PB-HR} = 2.68$**); and HR > HP ($M_{HR-HP} = 6.77$**) are significant at $\alpha = .01$.

Thus, the significant effect of the state depends on the type of institution.
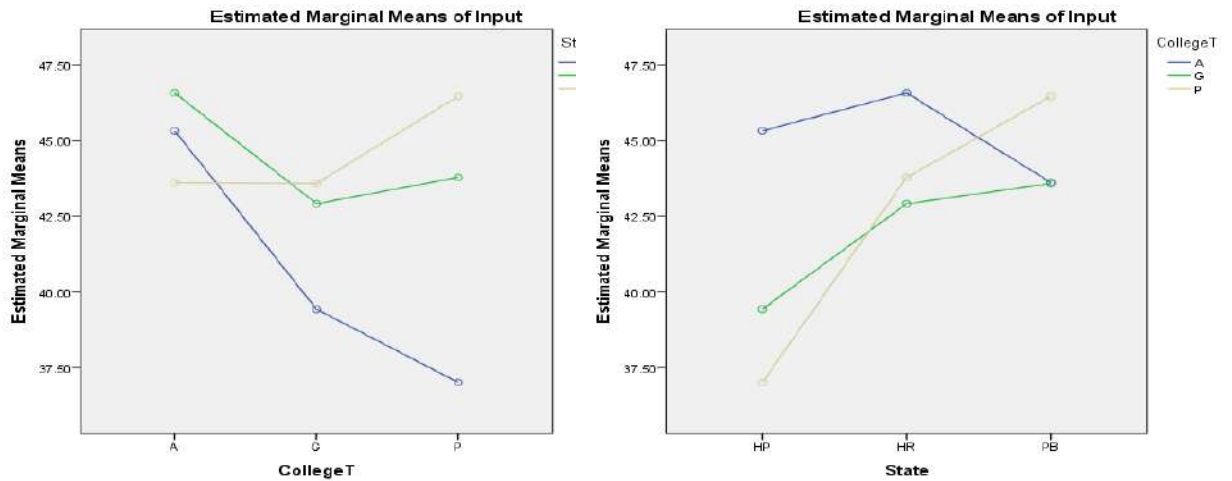
4.103-A (College =Constant)   **4.103-B (State=Constant)**

Figure 4.103 Interaction Effect of State (4.103-A) and Type of Institution (4.103-B) on the Impact of Input Factor of B.Ed. Programme on Pupil Teachers

> For impact of B.Ed. programme on pupil teachers w. r. t. type of institution (table 4.165 and figure 4.103-B) (i) at PB comparisons SFCE > GCE ($M_{SFCE - GCE}$ = 2.88**) and SFCE > GIACE ($M_{SFCE - GIACE}$ = 2.86**) are significant at α = .01 whereas GIACE > GCE ($M_{GIACE - GCE}$ = .02 ns) is not significant at α = .05 (ii) at HP comparisons of means - GIACE > SFCE ($M_{GIACE - SFCE}$ = 5.89**); GIACE > GCE ($M_{GIACE - GCE}$ = 8.31**); and GCE > SFCE ($M_{GCE - SFCE}$ = 2.42**) are significant at α = .01; and (iii) at HR comparisons of means - GIACE > GCE ($M_{GIACE - GCE}$ = 3.66**) and GIACE > SFCE ($M_{GIACE - SFCE}$ = 2.79**) are significant at α = .01 whereas SFCE > GCE ($M_{SFCE - GCE}$ = .87 ns) is not significant at α = .05.

Thus, the significant effect of the type of institution depends on the state.

Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of Input factor of B.Ed. Programme on pupil teachers.

Hence, both state and type of institution independently as well as together have a significant effect on the impact of Input factor of B.Ed. Programme on pupil teachers.

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4.2.1.3.3   **Main and Interaction Effect of State and Type of Institution on the Impact of Process Factor of B. Ed. Programme on Pupil Teachers**

Main Effect of State on the Impact of Process Factor of B.Ed. Programme on Pupil Teachers

There is a significant main effect of state on the impact of the Process factor of B.Ed. programme on pupil teachers of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{\text{Process – State (2, 1427)}} = 28.19$ is significant at $\alpha = .01$ (table 4.158). Thus, H_o stands not accepted for the effect of state on the impact of Process factor of B.Ed. programme on pupil teachers.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have a statistically significant impact of the Process factor of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of Process factor of B.Ed. programme on pupil teachers with respect to the state.

Table 4.166

Means Matrix Showing Significance of Difference in Means regarding the Impact of Process Factor of B.Ed. Programme on Pupil Teachers with respect to State

State			Punjab	Himachal Pradesh	Haryana
	N	**Mean** → **SD** ↓	59.28 6.87	54.17 9.18	59.46 8.36
Punjab	641	59.28 6.87	-	**8.38**[**]	.40
Himachal Pradesh	223	54.17 9.18		-	**8.53**[**]
Haryana	572	59.46 8.36			-

[**]$\alpha = .01$ *and* [*]$\alpha = .05$

Table 4.166 shows the significant mean differences on the impact of the Process factor of B.Ed. programme between the state of Punjab ($M_{PB} = 59.28$) vs Himachal Pradesh ($M_{HP} = 54.17$) favouring Punjab, as the value of $t_{(862)} = 8.38$ is significant at $\alpha = .01$; the state

of Haryana (M_{HR} = 59.46) vs Himachal Pradesh (M_{HP} = 54.17) favouring Haryana, as the value of t $_{(793)}$ = 8.53 is significant at α = .01; and non-significant mean difference on the impact of Process factor of B.Ed. programme exist between the state of Punjab (M_{PB} = 59.28) vs Haryana (M_{HR} = 59.46), as the value of t $_{(1211)}$ = .40 is non-significant at α = .05 (table 4.166).Thus, H_o stands not accepted for the pupil teachers of the state of Punjab vs Himachal Pradesh and Haryana vs Himachal whereas H_o stands accepted for the pupil teachers of the state of Punjab vs Haryana.

Hence, the impact of the Process factor of B.Ed. programme is significantly more in Punjab and Haryana states than that of Himachal Pradesh whereas both Punjab and Haryana do not have significant difference on the impact of Process factor of B.Ed. programme on pupil teachers.

Main Effect of Type of Institution on the Impact of Process of B.Ed. Programme on Pupil Teachers

There is a significant main effect of type of institution on the impact of Process factor of B.Ed. programme on pupil teachers of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{Process - TOI (2, 1427)}$ = 28.57 is significant at α = .01 (table 4.158). Thus, H_o stands not accepted for the effect of type of institution on the impact of Process factor of B.Ed. programme on pupil teachers.

Table 4.167

Means Matrix Showing Significance of Difference in Means regarding the Impact of Process Factor of B.Ed. Programme on Pupil Teachers with respect to Type of Institution

Type of Institution ⟶			Government	Grant-in Aid	Self-Financed
	N	**Mean ⟶** **SD ↓**	56.67 7.71	60.11 7.43	58.99 8.53
Government	459	56.67 7.71	-	**5.76****	**4.54****
Grant-in Aid	394	60.11 7.43		-	1.73
Self-Financed	583	58.99 8.53			-

$^{**}\alpha$ = .01 and $^{*}\alpha$ = .05

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means (table 4.167) and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of Process factor of B.Ed. programme on pupil teachers with respect to the type of institution.

Table 4.167 shows the significant mean differences on the impact of the Process factor of B.Ed. programme between the government (M_{GCE} = 56.67) vs grant-in-aid (M_{GIACE} = 60.11) colleges of education favouring the grant-in-aid colleges of education, as the value of $t_{(851)}$ = 5.76 is significant at α = .01; the government (M_{GCE} = 56.67) vs self-financed (M_{SFCE} = 58.99) college of education favouring the self-financed college of education, as the value of $t_{(1040)}$ = 4.54 is significant at α = .01; and non-significant mean difference on the impact of Process factor of B.Ed. programme between the grant-in-aid (M_{GIACE} = 60.11) vs self-financed (M_{SFCE} = 58.99) college of education, as the value of $t_{(975)}$ = 1.73 is non-significant at α = .05 (table 4.167). Thus, H_o stands not accepted for pupil teachers in the government colleges of education vs grant-in-aid colleges of education and the government colleges of education vs self-financed colleges of education comparisons; whereas H_o stands accepted for pupil teachers in the grant-in-aid colleges of education vs self-financed colleges of education comparison.

Hence, both the grant-in-aid colleges of education and self-financed colleges of education have significantly more effect than government colleges of education on the impact of B.Ed. programme on pupil teachers; whereas both the grant-in-aid colleges of education and self-financed colleges of education do not have significant difference on the impact of Process factor of B.Ed. programme on pupil teachers.

Interaction Effect of State and Type of Institution on the Impact of Process Factor of B.Ed. Programme on Pupil Teachers

In table 4.158, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of Process factor of B.Ed. Programme on pupil teachers is found to be significant, as the values of $F_{Process - State \times TOI (4, 1427)}$ = 22.78 is significant at α = .01. Thus, H_o stands not accepted for the interaction

effect of state and type of institution on the impact of Process factor of B.Ed. Programme on pupil teachers.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of Process factor of B.Ed. Programme on pupil teachers varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.168 below:

Table 4.168

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Process Factor of B.Ed. Programme on Pupil Teachers

Type of Institution ↓ State →	Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 194$ $M_1 = 58.40$	$N_2 = 91$ $M_2 = 52.73$	$N_3 = 174$ $M_3 = 56.81$
Grant-in Aid	$N_4 = 182$ $M_4 = 57.59$	$N_5 = 50$ $M_5 = 60.72$	$N_6 = 162$ $M_6 = 62.75$
Self-Financed	$N_7 = 265$ $M_7 = 61.09$	$N_8 = 82$ $M_8 = 51.78$	$N_9 = 236$ $M_9 = 59.15$

N = Number of Pupil Teachers and M = Mean Scores

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of Process factor of B.Ed. programme on pupil teachers.

Table 4.169

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w.r.t. the effect of State and Type of Institution regarding the Impact of Process Factorof B.Ed. Programme on Pupil Teachers

Type of Institution – Government Colleges of Education (GCE)				
State →		Punjab	Himachal Pradesh	Haryana
↓	↓Mean→	58.40	52.73	56.81
Punjab	58.40	-	**5.67**[**]	1.59
Himachal Pradesh	52.73		-	**4.08**[**]
Haryana	56.81			**-**

Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
⬇	**⬇Mean➤**	57.59	60.72	62.75
Punjab	57.59	-	**3.13**[*]	**5.16**[**]
Himachal Pradesh	60.72		-	2.03
Haryana	62.75			**-**
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
⬇	**⬇Mean➤**	61.09	51.78	59.15
Punjab	61.09	-	**9.31**[**]	1.94
Himachal Pradesh	51.78		-	**7.37**[**]
Haryana	59.15			**-**
State - Punjab (PB)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
⬇	**⬇Mean➤**	58.40	57.59	61.09
Government	58.40	-	.81	2.69
Grant-in Aid	57.59		-	**3.50**[**]
Self-Financed	61.09			**-**
State - Himachal Pradesh (HP)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
⬇	**⬇Mean➤**	52.73	60.72	51.78
Government	52.73	-	**7.99**[**]	.95
Grant-in Aid	60.72		-	**8.94**[**]
Self-Financed	51.78			**-**
State – Haryana (HR)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
⬇	**⬇Mean➤**	56.81	62.75	59.15
Government	56.81	-	**5.94**[**]	2.34
Grant-in Aid	62.75		-	**3.60**[**]
Self-Financed	59.15			**-**

$q_{k\ at\ .05} = 4.17$ & HSD or Q $_{critical\ at\ .05} = 2.85$; $q_{k\ at\ .05} = 4.88$ & HSD or Q $_{critical\ at\ .01} = 3.34$; [**]$α = .01$ and [*] $α = .05$

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.169.

For significant interaction of State x Type of Institution, Tukey's HSD test shows that -

➢ For impact of B.Ed. programme on pupil teachers w. r. t. state (table 4.169 and figure 4.104-A) (i) at GCE comparisons of means - PB > HP (M $_{PB – HP}$ = 5.67[**])

and HR > HP ($M_{HR – HP}$ = 4.08**) are significant at α = .01; and PB > HR ($M_{PB – HR}$ = 1.59 ns) is not significant at α = .05; (ii) at GIACE comparisons of means - HR > PB ($M_{HR –PB}$ = 5.16**) is significant at α = .01; HP > PB ($M_{HP – PB}$ = 3.13*) is significant at α = .05; and HR > HP ($M_{HR – HP}$ = 2.03 ns) are non significant at α = .05; and (iii) at SFCE comparisons of means - PB > HP ($M_{PB – HP}$ = 9.31**) and HR > HP ($M_{HR – HP}$ = 7.37**) are significant at α = .01; and PB > HR ($M_{PB – HR}$ = 1.94 ns) is not significant at α = .05.

Thus, the significant effect of the state depends on the type of institution.
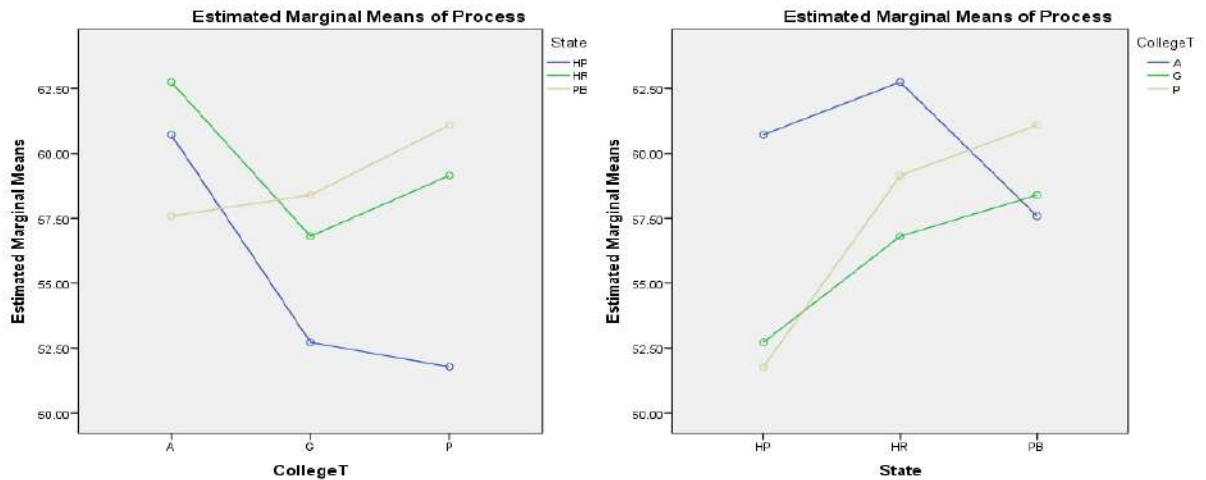
4.104-A (College =Constant)   **4.104-B (State=Constant)**

Figure 4.104 Interaction Effect of State (4.104-A) and Type of Institution (4.104-B) on the Impact of Process Factor of B.Ed. Programme on Pupil Teachers

➤ For impact of B.Ed. programme on pupil teachers w. r. t. type of institution (table 4.169 and figure 4.104-B) (i) at PB comparisons SFCE > GIACE ($M_{SFCE – GIACE}$ = 3.50**) is significant at α = .01whereas SFCE > GCE ($M_{SFCE – GCE}$ = 2.69 ns) and GCE > GIACE ($M_{GCE – GIACE}$ = .81 ns) are non significant at α = .05 (ii) at HP comparisons of means - GIACE > SFCE ($M_{GIACE – SFCE}$ = 5.89**) and GIACE > GCE ($M_{GIACE – GCE}$ = 7.99**) are significant at α = .01 whereas GCE > SFCE ($M_{GCE – SFCE}$ = .95 ns) is not significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE ($M_{GIACE – GCE}$ = 5.94**) and GIACE > SFCE ($M_{GIACE –}$

$_{SFCE}$ = 3.60**) are significant at α = .01 whereas SFCE > GCE (M $_{SFCE – GCE}$ = 2.34 ns) is not significant at α = .05.

Thus, the significant effect of the type of institution depends on the state.

Thus, H$_o$ stands not accepted for the interaction effect of state and type of institution on the impact of Process factor of B.Ed. Programme on pupil teachers.

Hence, both state and type of institution independently as well as together have a significant effect on the impact of Process factor of B.Ed. Programme on pupil teachers.

4.2.1.3.4 Main and Interaction Effect of State and Type of Institution on the Impact of Product Factor of B. Ed. Programme on Pupil Teachers

Effect of State on the Impact of Product Factor of B.Ed. Programme on Pupil Teachers

There is a significant main effect of state on the impact of the Product factor of B.Ed. programme on pupil teachers of the states of Punjab, Himachal Pradesh, and Haryana, as the value of F $_{Product – State (2, 1427)}$ = 7.97 is significant at α = .01 (table 4.158). Thus, H$_o$ stands not accepted for the effect of state on the impact of Product factor of B.Ed. programme on pupil teachers.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have a statistically significant impact of the Product factor of B.Ed. programme on pupil teachers.

Table 4.170

Means Matrix Showing Significance of Difference in Means regarding the Impact of Product Factor of B.Ed. Programme on Pupil Teachers with respect to State

State			Punjab	Himachal Pradesh	Haryana
	N	Mean SD	52.01 5.81	49.37 7.03	51.49 6.70
Punjab	641	52.01 5.81	-	5.28**	1.41
Himachal Pradesh	223	49.37 7.03		-	4.24**
Haryana	572	51.49 6.70			-

**α = .01 and *α = .05

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of Product factor of B.Ed. programme on pupil teachers with respect to the state.

Table 4.170 shows the significant mean differences on the impact of the Product factor of B.Ed. programme between the state of Punjab ($M_{PB} = 52.01$) vs Himachal Pradesh ($M_{HP} = 49.37$) favouring Punjab,as the value of $t_{(862)} = 8.38$ is significant at $\alpha = .01$; the state of Haryana ($M_{HR} = 51.49$) vs Himachal Pradesh ($M_{HP} = 49.37$) favouring Haryana,as the value of $t_{(793)} = 8.53$ is significant at $\alpha = .01$; and non-significant mean difference on the impact of Product factor of B.Ed. programme exist between the state of Punjab ($M_{PB} = 52.01$) vs Haryana ($M_{HR} = 51.49$), as the value of $t_{(1211)} = .40$ is not significant at $\alpha = .05$ (table 4.170). Thus, H_o stands not accepted for the pupil teachers of the state of Punjab vs Himachal Pradesh and Haryana vs Himachal whereas H_o stands accepted for the pupil teachers of the state of Punjab vs Haryana.

Hence, the impact of the Product factor of B.Ed. programme is significantly more in Punjab and Haryana states than that of Himachal Pradesh whereas both Punjab and Haryana do not have significant difference on the impact of Product factor of B.Ed. programme on pupil teachers.

Effect of Type of Institution on the Impact of Product Factor of B.Ed. Programme on Pupil Teachers

There is a significant main effect of type of institution on the impact of Product factor of B.Ed. programme on pupil teachers of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{Product – TOI (2, 1427)} = 11.94$ is significant at $\alpha = .01$ (table 4.158). Thus, H_o stands not accepted for the effect of type of institution on the impact of Process factor of B.Ed. programme on pupil teachers.

Hence, the government, grant-in-aid, and self-financed colleges of education have a statistically significant impact of the Product factor of B.Ed. programme on pupil teachers.

Table 4.171

Means Matrix Showing Significance of Difference in Means regarding the Impact of Product Factor of B.Ed. Programme on Pupil Teachers with respect to Type of Institution

Type of Institution ⟶			Government	Grant-in Aid	Self-Financed
	N	**Mean** ⟶ **SD** ↓	50.39 5.58	52.13 5.85	51.68 7.29
Government	459	50.39 5.58	-	3.34**	3.05**
Grant-in Aid	394	52.13 5.85		-	.61
Self-Financed	583	51.68 7.29			-

$^{**}\alpha = .01$ *and* $^{*}\alpha = .05$

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means (table 4.154) and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of Product factor of impact of B.Ed. programme on pupil teachers with respect to the type of institution.

The table 4.154 shows the significant mean differences on the impact of Product factor of B.Ed. programme between the government ($M_{GCE} = 50.39$) vs grant-in-aid ($M_{GIACE} = 52.13$) colleges of education favouring the grant-in-aid colleges of education, as the value of $t_{(851)} = 3.34$ is significant at $\alpha = .01$; the government ($M_{GCE} = 50.39$) vs self-financed ($M_{SFCE} = 51.68$) college of education favouring the self-financed colleges of education, as the value of $t_{(1040)} = 3.05$ is significant at $\alpha = .01$; and non-significant mean differences on the impact of Product factor of B.Ed. programme exist between the grant-in-aid ($M_{GIACE} = 52.13$) and self-financed ($M_{SFCE} = 51.68$) colleges of education, as the value of $t_{(975)} = .61$ is non-significant at $\alpha = .05$ (table 4.171).

Thus, H_o stands not accepted for pupil teachers in the government colleges of education vs grant-in-aid colleges of education and the government colleges of education vs self-financed colleges of education comparisons; whereas H_o stands accepted for pupil

teachers in the grant-in-aid colleges of education vs self-financed colleges of education comparison.

Hence, both the grant-in-aid colleges of education and self-financed colleges of education have significantly more effect than government colleges of education on the impact of the Product factor of B.Ed. programme on pupil teachers whereas both the grant-in-aid colleges of education and self-financed colleges of education do not have a significant difference on the impact of Product factor of B.Ed. programme on pupil teachers.

Interaction Effect of State and Type of Institution on the Impact of Product Factor of B.Ed. Programme on Pupil Teachers

In Table 4.158, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of Product factor of B.Ed. Programme on pupil teachers is found to be significant, as the values of $F_{\text{Product - State x TOI (4, 1427)}}$ = 23.33 is significant at α = .01. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of Product factor of B.Ed. Programme on pupil teachers.

Table 4.172

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Product Factor of B.Ed. Programme on Pupil Teachers

Type of Institution ↓	State →	Punjab	Himachal Pradesh	Haryana
Government		$N_1 = 194$ $M_1 = 51.28$	$N_2 = 91$ $M_2 = 48.95$	$N_3 = 174$ $M_3 = 50.16$
Grant-in Aid		$N_4 = 182$ $M_4 = 50.13$	$N_5 = 50$ $M_5 = 52.98$	$N_6 = 162$ $M_6 = 54.11$
Self-Financed		$N_7 = 265$ $M_7 = 53.83$	$N_8 = 82$ $M_8 = 47.65$	$N_9 = 236$ $M_9 = 50.67$

N = Number of Pupil Teachers and M = Mean Scores

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of Product factor of B.Ed. Programme on pupil teachers varies due to any one of these (i.e. state and type of institution) independent variables at the different

levels of the other independent variable. The means of different subgroups are shown in table 4.172.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of Product factor of B.Ed. programme on pupil teachers.

Table 4.173

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w.r.t. the effect of State and Type of Institution regarding the Impact of Product Factorof B.Ed. Programme on Pupil Teachers

Type of Institution – Government Colleges of Education (GCE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean ⟶	51.28	48.95	50.16
Punjab	51.28	-	**2.33**[**]	1.12
Himachal Pradesh	48.95		-	1.21
Haryana	50.16			**-**
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean ⟶	50.13	52.98	54.11
Punjab	50.13	-	**2.85**[**]	**3.98**[**]
Himachal Pradesh	52.98		-	1.13
Haryana	54.11			**-**
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean ⟶	53.83	47.65	50.67
Punjab	53.83	-	**6.18**[**]	**3.16**[**]
Himachal Pradesh	47.65		-	**3.02**[**]
Haryana	50.67			**-**
State - Punjab (PB)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean ⟶			
Government	51.28	-	1.15	**2.55**[*]
Grant-in Aid	50.13		-	**3.70**[**]
Self-Financed	53.83			**-**

State - Himachal Pradesh (HP)				
Type of Institution ⟶	↓Mean⟶	Government	Grant-in Aid	Self-Financed
Government	48.95	-	4.03**	1.30
Grant-in Aid	52.98		-	5.33**
Self-Financed	47.65			-
State – Haryana (HR)				
Type of Institution ⟶	↓Mean⟶	Government	Grant-in Aid	Self-Financed
Government	50.16	-	3.95**	.81
Grant-in Aid	54.11		-	3.44**
Self-Financed	50.67			-

$q_{k\,at\,.05}$ = 4.17 & HSD or Q $_{critical\,at\,.05}$ = 2.32; $q_{k\,at\,.05}$ = 4.88 & HSD or Q $_{critical\,at\,.01}$ = 2.72; **α = .01 and *α = .05

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.173.
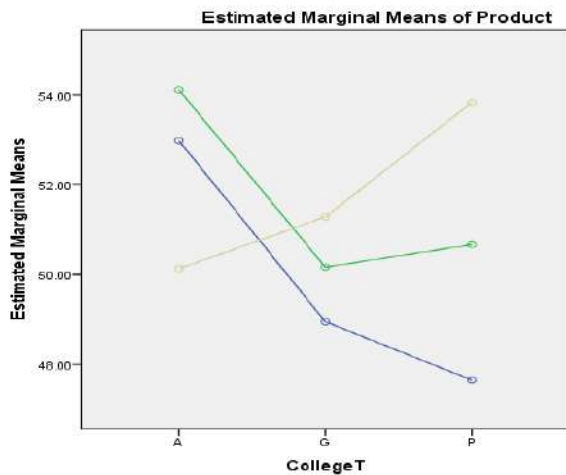
4.105-A (College =Constant)   4.105-B (State=Constant)
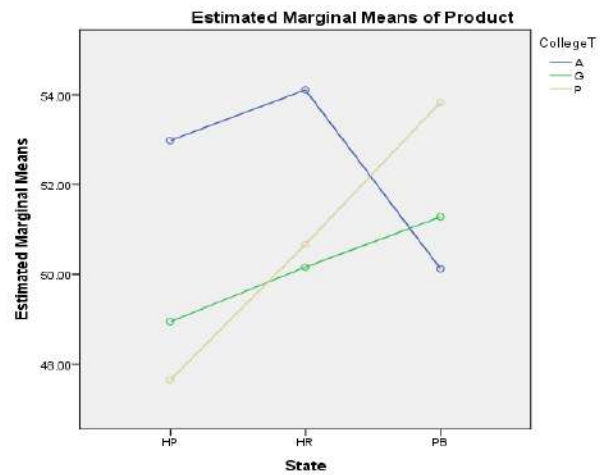
Figure 4.105 Interaction Effect of State (4.105-A) and Type of Institution (4.105-B) on the Impact of Product Factor of B.Ed. Programme on Pupil Teachers

For significant interaction of State x Type of Institution, Tukey's HSD test shows that -

➢ For impact of B.Ed. programme on pupil teachers w. r. t. state (table 4.173 and figure 4.105-A) (i) at GCE comparisons of means - PB > HP (M $_{PB - HP}$ = 2.33**) is significant at α = .01; HR > HP (M $_{HR - HP}$ = 1.21 ns) and PB > HR (M $_{PB - HR}$ = 1.12 ns) are non significant at α = .05; (ii) at GIACE comparisons of means - HR > PB (M $_{HR - PB}$ = 3.98**) and HP > PB (M $_{HP - PB}$ = 2.85**) are significant at α = .01 whereas HR > HP (M $_{HR - HP}$ = 1.13 ns) is not significant at α = .05; and (iii) at SFCE comparisons of means - PB > HP (M $_{PB - HP}$ = 6.18**); HR > HP (M $_{HR - HP}$ = 3.02**); and PB > HR (M $_{PB - HR}$ = 3.16**) are significant at α = .01.

Thus, the significant effect of the state depends on the type of institution.

➢ For impact of B.Ed. programme on pupil teachers w. r. t. type of institution (table 4.173 and figure 4.105-B) (i) at PB comparisons SFCE > GIACE (M $_{SFCE - GIACE}$ = 3.70**) is significant at α = .01; SFCE > GCE (M $_{SFCE - GCE}$ = 2.55*) is significant at α = .05; and GCE > GIACE (M $_{GCE - GIACE}$ = 1.15 ns) is not significant at α = .05 (ii) at HP comparisons of means - GIACE > SFCE (M $_{GIACE - SFCE}$ = 5.33**) and GIACE > GCE (M $_{GIACE - GCE}$ = 4.03**) are significant at α = .01 whereas GCE > SFCE (M $_{GCE - SFCE}$ = 1.30 ns) is not significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE (M $_{GIACE - GCE}$ = 3.95**) and GIACE > SFCE (M $_{GIACE - SFCE}$ = 3.44**) are significant at α = .01 whereas SFCE > GCE (M $_{SFCE - GCE}$ = .81 ns) is not significant at α = .05.

Thus, the significant effect of the type of institution depends on the state.

Thus, H$_o$ stands not accepted for the interaction effect of state and type of institution on the impact of Product factor of B.Ed. Programme on pupil teachers.

Hence, both state and type of institution independently as well as together have a significant effect on the impact of Product factor of B.Ed. Programme on pupil teachers.

4.2.1.3.5 Effect of Type of Self-Financed Institution on the Factorwise Impact of B.Ed. Programme on Pupil Teachers

t-test (independent samples) was applied to study the effect of a single independent variable i.e., type of self-financed institution on a single dependent variable i.e., the factorwise impact of B.Ed. programme (IBP) on pupil teachers on the data obtained in

terms of rating scores of pupil teachers on ESIBP (factorwise data) after the computation of means and standard deviations.

The term type of self-financed institution, here, refers to two types of self-financed institutions i.e., self-financed institutions affiliated to the state government (SFISGU) and self-financed institutions affiliated to state government and private universities (SFIPU) (table 4.173A).

Table 4.173A

Means Matrices Showing Significance of Difference in Means regarding the Factorwise Impact of B.Ed. Programme on Pupil Teachers with respect to Type of Self-Financed Institution

Sr. No.	Factors of B.Ed. Programme	University			SFISGU	SFIPU
			N	**Mean** **SD**	25.92 3.42	26.92 2.54
1.	**Context**	**SFISGU**	433	25.92 3.42	-	**3.79****
		SFIPU	150	26.92 2.54		**-**
2.	**Input**			**Mean** **SD**	43.42 6.99	45.87 4.70
		SFISGU	433	43.42 6.99	-	**4.81****
		SFIPU	150	45.87 4.70		**-**
3.	**Process**			**Mean** **SD**	58.01 8.81	61.84 6.97
		SFISGU	433	58.01 8.81	-	**5.40****
		SFIPU	150	61.84 6.97		**-**
4.	**Product**			**Mean** **SD**	51.05 6.71	53.51 5.49
		SFISGU	433	51.05 6.71	-	**4.23****
		SFIPU	150	53.51 5.49		**-**

** $\alpha = .01$ *and* * $\alpha = .05$

SFISGU (Self-financed institutions affiliated with state government universities) and SFIPU (Self-financed institutions affiliated with private universities)

The significance of the difference between means of the impact of four factors, i.e., Context, Input, Process, and Product factors, of B.Ed. Programme in case of pupil teachers with respect to the type of self-financed institution have been computed, compared (table 4.173A), and tested against the following null hypothesis:

H_o: There is no significant diference in the factorwise impact of B.Ed. programme on pupil teachers with respect to the type of self-financed institution.

4.2.1.3.5.1   Effect of Type of Self-Financed Institution on the Impact of Context Factor of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of Context factor of B.Ed. programme on pupil teachers is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 25.82) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 26.92), as the value of t $_{(531)}$ = 3.79 is significant at α = .01 favouring self-financed institutions affiliated to private universities (table 4.173A). Therefore, the higher mean score of the impact of Context factor of B.Ed. programme for pupil teachers of self-financed institutions affiliated with private universities indicates that self-financed institutions affiliated with private universities have significantly more effect than self-financed institutions affiliated to state government universities on the impact of Context factor of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has a significant effect on the impact of the Context factor of B.Ed. programme on pupil teachers.

4.2.1.3.5.2   Effect of Type of Self-Financed Institution on the Impact of Input Factor of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of Input factor of B.Ed. programme on pupil teachers is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 43.42) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 45.87), as the value of t $_{(531)}$ = 4.81 is significant at α = .01 favouring self-financed institutions affiliated to private universities (table 4.173A).

Therefore, the higher mean score of the impact of Input factor of B.Ed. programme for pupil teachers of self-financed institutions affiliated with private universities indicates that self-financed institutions affiliated with private universities have significantly more effect than self-financed institutions affiliated with state government universities on the impact of Input factor of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the self-financed institutions affiliated with state government universities vs self-financed institutions affiliated with private universities.

Hence, the type of self-financed institution has a significant effect on the impact of the Input factor of B.Ed. programme on pupil teachers.

4.2.1.3.5.3　　Effect of Type of Self-Financed Institution on the Impact of Process Factor of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of Process factor of B.Ed. programme on pupil teachers is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 58.01) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 61.84), as the value of t $_{(531)}$ = 5.40 is significant at α = .01 favouring self-financed institutions affiliated to private universities (table 4.173A). Therefore, the higher mean score of the impact of Process factor of B.Ed. programme for pupil teachers of self-financed institutions affiliated with private universities indicates that self-financed institutions affiliated with private universities have significantly more effect than self-financed institutions affiliated with state government universities on the impact of Process factor of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has a significant effect on the impact of the Process factor of B.Ed. programme on pupil teachers.

4.2.1.3.5.4　　Effect of Type of Self-Financed Institution on the Impact of Product Factor of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of Product factor of B.Ed. programme on pupil teachers is between the self-financed institutions affiliated to state government

universities (M_{SFISGU} = 51.05) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 53.51), as the value of t $_{(531)}$ = 4.23 is significant at α = .01 favouring self-financed institutions affiliated to private universities (table 4.173A). Therefore, the higher mean score of the impact of Product factor of B.Ed. programme for pupil teachers of self-financed institutions affiliated to private universities indicates that self-financed institutions affiliated to private universities have significantly more effect than self-financed institutions affiliated to state government universities on the impact of Product factor of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has a significant effect on the impact of the Product factor of B.Ed. programme on pupil teachers.

4.2.1.4 Effect of University on the Factorwise Impact of B.Ed. Programme on Pupil Teachers

t-test (independent samples) was applied to study the effect of a single independent variable i.e., university on a single dependent variable i.e., the factorwise impact of B.Ed. programme (IBP) on pupil teachers on the data obtained in terms of rating scores of pupil teachers on ESIBP (factorwise data) after the computation of means and standard deviations.

The term university, here, refers to two universities i.e., state government universities (SGU) and private universities (PU) (table 4.174).

Input, Process and Product factors, of B.Ed. Programme in case of pupil teachers with respect to university have been computed, compared (table 4.174), and tested against the following null hypothesis:

H_o: There is no significant difference in the factorwise impact of B.Ed. programme on pupil teachers with respect to the university.

Table 4.174

Means Matrices Showing Significance of Difference in Means regarding the Factorwise IBP on Pupil Teachers with respect to University

Sr. No.	Factors of B.Ed. Programme	University			SGU	PU
			N	Mean SD	25.82 3.01	26.92 2.54
1.	Context	SGU	1286	25.82 3.01	-	**4.91****
		PU	150	26.92 2.54		-
2.	Input			Mean SD	43.59 5.95	45.87 4.70
		SGU	1286	43.59 5.95	-	**5.45****
		PU	150	45.87 4.70		-
3.	Process			Mean SD	58.17 8.13	61.84 6.97
		SGU	1286	58.17 8.13	-	**5.30****
		PU	150	61.84 6.97		-
4.	Product			Mean SD	51.14 6.49	53.51 5.49
		SGU	1286	51.14 6.49	-	**4.89****
		PU	150	53.51 5.49		-

**α = .01 and * α = .05

SGU (State government universities) and PU (Private universities)

4.2.1.4.1   Effect of University on the Impact of Context Factor of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of Context factor of B.Ed. programme on pupil teachers is between the state government universities (M_{SGU} = 25.82) vs self-financed universities (M_{PU} = 26.92), as the value of t $_{(1434)}$ = 4.91 is significant at α = .01 favouring self-financed universities (table 4.174). Therefore, the higher mean score of the impact of Context factor of B.Ed. programme for pupil teachers of private universities indicates that

private universities have significantly more effect than state government universities on the impact of Context factor of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the state government universities vs private universities.

Hence, type of university has a significant effect on the impact of the Context factor of B.Ed. programme on pupil teachers.

4.2.1.4.2   Effect of University on the Impact of Input Factor of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of Input factor of B.Ed. programme on pupil teachers is between the state government universities ($M_{SGU} = 43.59$) vs self-financed universities ($M_{PU} = 45.87$), as the value of t $_{(1434)} = 5.45$ is significant at $\alpha = .01$ favouring self-financed universities (table 4.174). Therefore, the higher mean score of the impact of Input factor of B.Ed. programme for pupil teachers of private universities indicates that private universities have significantly more effect than state government universities on the impact of Input factor of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the state government universities vs private universities.

Hence, type of university has a significant effect on the impact of the Input factor of B.Ed. programme on pupil teachers.

4.2.1.4.3   Effect of University on the Impact of Process Factor of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of Process factor of B.Ed. programme on pupil teachers is between the state government universities ($M_{SGU} = 58.17$) vs self-financed universities ($M_{PU} = 61.84$), as the value of t $_{(1434)} = 5.30$ is significant at $\alpha = .01$ favouring self-financed universities (table 4.174). Therefore, the higher mean score of the impact of Process factor of B.Ed. programme for pupil teachers of private universities indicates that private universities have significantly more effect than state government universities on the impact of Process factor of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the state government universities vs private universities.

Hence, type of university has a significant effect on the impact of the Process factor of B.Ed. programme on pupil teachers.

4.2.1.4.4   **Effect of University on the Impact of Product Factor of B.Ed. Programme on Pupil Teachers**

The comparison of means on the impact of Product factor of B.Ed. programme on pupil teachers is between the state government universities ($M_{SGU} = 51.14$) vs self-financed universities ($M_{PU} = 53.51$), as the value of $t_{(1434)} = 4.89$ is significant at $\alpha = .01$ favouring self-financed universities (table 4.174). Therefore, the higher mean score of the impact of Product factor of B.Ed. programme for pupil teachers of private universities indicates that private universities have significantly more effect than state government universities on the impact of Product factor of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the state government universities vs private universities.

Hence, type of university has a significant effect on the impact of the Product factor of B.Ed. programme on pupil teachers.

4.2.1.5 Effect of State and Type of Institution on the Dimensionwise Impact of B.Ed. Programme on Pupil Teachers

A two-way ANOVA, i.e., 3 (levels of state) and 3 (levels of institution), was applied to study the effect of two independent variables i.e., state and type of institution (TOI) on a single dependent variable i.e., the dimensionwise impact of B.Ed. programme (IBP) on pupil teachers on the data obtained in terms of rating scores of pupil teachers on ESIBP (dimensionwise data) after the computation of means and standard deviations for each level. The term state, here, refers to three states i.e., the state of Punjab (PB), Himachal Pradesh (HP), and Haryana (HR), and the term type of institution (TOI), here, refers to three types of institutions i.e., the government (GCE), grant-in-aid (GIACE) and self-financed (SFCE) colleges of education (table 4.175).

The significance of differences between means of the impact of fourteen dimensions, i.e. Mission & Vision; Programme Objectives; Academic Input; Resource Input; Training Input; Professional Input; Curriculum Transaction Process; Professional Process; Training Process; Academic Process; Evaluation Process; Professional Competencies Product; Inclusive Competencies Product; and Teaching & Evaluation Competencies Product of four evaluation factors i.e., Context, Input, Process, and Product factors of

B.Ed. programme (in case of pupil teachers with respect to state and type of institution) have been computed, compared, and tested against the following null hypotheses:

H_o: There is no significant main effect of state on the dimensionwise impact of B.Ed. programme on pupil teachers.

H_o: There is no significant main effect of type of institution on the dimensionwise impact of B.Ed. programme on pupil teachers.

H_o: There is no significant interaction effect of state and type of institution on the dimensionwise impact of B.Ed. programme on pupil teachers.

4.2.1.5.1   Main and Interaction Effect of State and Type of Institution on the Impact of Mission & Vision Dimension of B. Ed. Programme on Pupil Teachers

Main Effect of State on the Impact of Mission & Vision Dimension of B.Ed. Programme on Pupil Teachers

There is a non-significant main effect of state on the impact of mission & vision dimension of B.Ed. programme on pupil teachers of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{MV – State (2, 1427)} = .79$ is not significant at $\alpha = .05$ (table 4.175). Thus, H_o stands accepted for the effect of state on the impact of mission & vision dimension of B.Ed. programme on pupil teachers.

Hence, the states of Punjab, Haryana, and Himachal Pradesh do not have significant differences on the impact of mission & vision dimension of B.Ed. programme on pupil teachers.

Main Effect of Type of Institution on the Impact of Mission & Vision Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of type of institution on the impact of mission & vision dimension of B.Ed. programme on pupil teachers of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{MV – TOI (2, 1427)} = 19.29$ is significant at $\alpha = .01$ (table 4.175). Thus, H_o stands not accepted for the effect of type of institution on the impact of mission & vision dimension of B.Ed. programme on pupil teachers.

Table 4.175

Descriptive Statistics and Summary of Two-Way (3 x 3) ANOVA on the Dimensionwise Impact of B.Ed. Programme on Pupil Teachers with respect to State and Type of Institution (TOI)

Dimensions	Category	Type	N	Mean	SD	SOV	df	SS	MS	F-ratio
Mission & Vision (MV)	State	HP	223	13.06	1.60	State	2	3.97	1.99	.79
		HR	572	13.11	1.70	TOI	2	96.48	48.24	**19.29**[**]
		PB	641	13.08	1.58	State x TOI	4	126.99	31.75	**12.69**[**]
	TOI	GIACE	394	13.39	1.52	Error	1427	3569.53	2.50	
		GCE	459	12.73	1.49	Total	1435	3797.05		
		SFCE	583	13.18	1.74					
Programme Objectives (PO)	State	HP	223	12.82	1.61	State	2	.66	.33	.11
		HR	572	12.77	1.83	TOI	2	48.19	24.10	**8.21**[**]
		PB	641	12.93	1.75	State x TOI	4	185.86	46.46	**15.83**[**]
	TOI	GIACE	394	13.00	1.60	Error	1427	4187.99	2.94	
		GCE	459	12.52	1.74	Total	1435	4452.30		
		SFCE	583	13.00	1.85					
Academic Input (AI)	State	HP	223	8.66	1.78	State	2	76.33	38.16	**17.87**[**]
		HR	572	9.47	1.58	TOI	2	84.25	42.13	**19.73**[**]
		PB	641	9.52	1.37	State x TOI	4	199.24	49.81	**23.32**[**]
	TOI	GIACE	394	9.55	1.45	Error	1427	3047.57	2.14	
		GCE	459	8.98	1.38	Total	1435	3461.06		
		SFCE	583	9.55	1.70					
Resource Input (RI)	State	HP	223	7.74	2.39	State	2	439.66	219.83	**78.13**[**]
		HR	572	9.52	1.76	TOI	2	289.66	144.83	**51.47**[**]
		PB	641	9.66	1.49	State x TOI	4	303.70	75.92	**26.98**[**]
	TOI	GIACE	394	9.83	1.44	Error	1427	4015.15	2.81	
		GCE	459	8.96	1.87	Total	1435	5096.83		
		SFCE	583	9.22	2.08					

[**]$\alpha = .01$ *and* [*]$\alpha = .05$

Table 4.175

Descriptive Statistics and Summary of Two-Way (3 x 3) ANOVA on the Dimensionwise Impact of B.Ed. Programme on Pupil Teachers with respect to State and Type of Institution (TOI)

Dimensions	Category	Type	N	Mean	SD	SOV	df	SS	MS	F-ratio
Training Input (TI)	State	HP	223	18.08	2.53	State	2	117.18	58.59	**9.02**[**]
		HR	572	18.94	2.83	TOI	2	114.35	57.17	**8.81**[**]
		PB	641	19.21	2.45	State x TOI	4	480.58	120.15	**18.51**[**]
	TOI	GIACE	394	19.17	2.56	Error	1427	9264.43	6.49	
		GCE	459	18.52	2.46	Total	1435	10047.61		
		SFCE	583	19.09	2.81					
Professional Input (PI)	State	HP	223	5.38	1.32	State	2	135.17	67.59	**55.79**[**]
		HR	572	6.38	1.19	TOI	2	71.72	35.86	**29.60**[**]
		PB	641	6.39	1.01	State x TOI	4	79.43	19.86	**16.39**[**]
	TOI	GIACE	394	6.50	1.03	Error	1427	1728.67	1.21	
		GCE	459	6.04	1.13	Total	1435	2032.70		
		SFCE	583	6.20	1.30					
Curriculum Transaction Process (CTP)	State	HP	223	20.93	3.57	State	2	231.95	115.98	**12.61**[**]
		HR	572	22.46	3.23	TOI	2	465.53	232.76	**25.31**[**]
		PB	641	22.21	2.84	State x TOI	4	615.87	153.97	**16.74**[**]
	TOI	GIACE	394	22.73	2.99	Error	1427	13125.20	9.20	
		GCE	459	21.56	3.11	Total	1435	14372.17		
		SFCE	583	22.13	3.23					
Professional Process (PP)	State	HP	223	11.26	2.34	State	2	176.95	88.47	**22.54**[**]
		HR	572	12.50	2.15	TOI	2	136.90	68.45	**17.44**[**]
		PB	641	12.44	1.82	State x TOI	4	271.01	67.75	**17.26**[**]
	TOI	GIACE	394	12.52	1.98	Error	1427	5600.30	3.93	
		GCE	459	11.83	1.97	Total	1435	6254.78		
		SFCE	583	12.47	2.20					

[**]$\alpha = .01$ *and* [*]$\alpha = .05$

Table 4.175

Descriptive Statistics and Summary of Two-Way (3 x 3) ANOVA on the Dimensionwise Impact of B.Ed. Programme on Pupil Teachers with respect to State and Type of Institution (TOI)

Dimensions	Category	Type	N	Mean	SD	SOV	df	SS	MS	F-ratio
Training Process (TP)	State	HP	223	8.10	1.79	State	2	129.21	64.61	**27.31**[**]
		HR	572	9.09	1.69	TOI	2	129.35	64.67	**27.33**[**]
		PB	641	9.16	1.42	State x TOI	4	126.53	31.63	**13.37**[**]
	TOI	GIACE	394	9.23	1.48	Error	1427	3376.30	2.37	
		GCE	459	8.49	1.66	Total	1435	3832.77		
		SFCE	583	9.18	1.64					
Academic Process (AP)	State	HP	223	5.31	1.30	State	2	103.88	51.94	**40.74**[**]
		HR	572	6.11	1.25	TOI	2	45.65	22.82	**17.90**[**]
		PB	641	6.23	1.00	State x TOI	4	69.32	17.33	**13.59**[**]
	TOI	GIACE	394	6.26	1.06	Error	1427	1819.20	1.28	
		GCE	459	5.87	1.13	Total	1435	2056.58		
		SFCE	583	6.03	1.31					
Evaluation Process (EP)	State	HP	223	8.57	1.65	State	2	63.65	31.83	**14.49**[**]
		HR	572	9.29	1.66	TOI	2	51.23	25.61	**11.66**[**]
		PB	641	9.23	1.35	State x TOI	4	160.99	40.25	**18.32**[**]
	TOI	GIACE	394	9.36	1.44	Error	1427	3134.55	2.20	
		GCE	459	8.92	1.50	Total	1435	3420.91		
		SFCE	583	9.19	1.63					
Professional Competencies Product (PCPr)	State	HP	223	24.71	3.47	State	2	167.72	83.86	**7.91**[**]
		HR	572	25.79	3.56	TOI	2	173.24	86.62	**8.17**[**]
		PB	641	25.99	3.10	State x TOI	4	805.84	201.46	**19.00**[**]
	TOI	GIACE	394	26.09	3.07	Error	1427	15132.39	10.60	
		GCE	459	25.27	3.01	Total	1435	16336.51		
		SFCE	583	25.81	3.78					

[**]$\alpha = .01$ and [*]$\alpha = .05$

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Table 4.175

Descriptive Statistics and Summary of Two-Way (3 x 3) ANOVA on the Dimensionwise Impact of B.Ed. Programme on Pupil Teachers with respect to State and Type of Institution (TOI)

Dimensions	Category	Type	N	Mean	SD	SOV	df	SS	MS	F-ratio
Inclusive Competencies Product (ICPr)	State	HP	223	6.31	1.13	State	2	6.33	3.17	2.92
		HR	572	6.39	1.10	TOI	2	11.20	5.60	**5.17**[**]
		PB	641	6.56	0.99	State x TOI	4	51.90	12.98	**11.98**[**]
	TOI	GIACE	394	6.52	.95	Error	1427	1545.55	1.08	
		GCE	459	6.36	.98	Total	1435	1618.06		
		SFCE	583	6.49	1.19					
Teaching & Evaluation CompetenciesProduct (TECPr)	State	HP	223	18.35	3.04	State	2	105.43	52.72	**7.77**[**]
		HR	572	19.31	2.85	TOI	2	188.15	94.07	**13.87**[**]
		PB	641	19.44	2.40	State x TOI	4	598.53	149.63	**22.06**[**]
	TOI	GIACE	394	19.53	2.57	Error	1427	9678.30	6.78	
		GCE	459	18.76	2.39	Total	1435	10603.02		
		SFCE	583	19.38	3.01					

[**]$\alpha = .01$ *and* [*]$\alpha = .05$

Hence, the government, grant-in-aid, and self-financed colleges of education have a statistically significant impact of the mission & vision dimension of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of mission & vision dimension of B.Ed. programme on pupil teachers with respect to the type of institution.

Table 4.176

Means Matrix Showing Significance of Difference in Means regarding the Impact of Mission & Vision Dimension of B.Ed. Programme on Pupil Teachers with respect to Type of Institution

Type of Institution ⟶			Government	Grant-in Aid	Self-Financed
↓	N	Mean ⟶ SD ↓	12.73 1.49	13.39 1.52	13.18 1.74
Government	459	12.73 1.49	-	**6.38****	**4.49****
Grant-in Aid	394	13.39 1.52		-	**2.00***
Self-Financed	583	13.18 1.74			-

**$\alpha = .01$ *and* *$\alpha = .05$

Table 4.176 shows the significant mean differences on the impact of mission & vision dimension of B.Ed. programme between the grant-in-aid ($M_{GIACE} = 12.73$) vs government ($M_{GCE} = 13.39$) colleges of education favouring the grant-in-aid colleges of education, as the value of t $_{(851)} = 6.38$ is significant at $\alpha = .01$; the self-financed ($M_{SFCE} = 13.18$) vs government ($M_{GCE} = 12.73$) colleges of education favouring the self-financed colleges of education, as the value of t $_{(1040)} = 4.49$ is significant at $\alpha = .01$; and the grant-in-aid ($M_{GIACE} = 13.39$) vs self-financed ($M_{SFCE} = 13.18$) colleges of education favouring the grant-in-aid colleges of education, as the value of t $_{(975)} = 2.00$ is significant at $\alpha = .05$ (table 4.176).Thus, H_o stands not accepted for pupil teachers in the government colleges of education vs grant-in-aid colleges of education; the government colleges of education

vs self-financed colleges of education; and the grant-in-aid colleges of education vs self-financed colleges of education comparisons.

Hence, both the grant-in-aid colleges of education and self-financed colleges of education have significantly more effect than government colleges of education on the impact of mission & vision dimension of B.Ed. programme on pupil teachers; and the grant-in-aid colleges of education have significantly more effect than the self-financed colleges of education on the impact of mission & vision dimension of B.Ed. programme on pupil teachers.

Interaction Effect of State and Type of Institution on the Impact of Mission & Vision Dimension of B.Ed. Programme on Pupil Teachers

In table 4.175, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of mission & vision dimension of B.Ed. Programme on pupil teachers is found to be significant, as the value of $F_{MV - State \times TOI (4, 1427)} = 19.29$ is significant at $\alpha = .01$. Thus, H_o stands not accepted for the interaction effect of the state and type of institution on the impact of mission & vision dimension of B.Ed. programme on pupil teachers.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of mission & vision dimension of B.Ed. programme on pupil teachers varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.177.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of mission & vision dimension of B.Ed. programme on pupil teachers.

Table 4.177

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Mission &

Vision Dimension of B.Ed. Programme on Pupil Teachers

Type of Institution ↓ State →	Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 194$ $M_1 = 12.84$	$N_2 = 91$ $M_2 = 12.85$	$N_3 = 174$ $M_3 = 12.54$
Grant-in Aid	$N_4 = 182$ $M_4 = 12.87$	$N_5 = 50$ $M_5 = 13.76$	$N_6 = 162$ $M_6 = 13.86$
Self-Financed	$N_7 = 265$ $M_7 = 13.40$	$N_8 = 82$ $M_8 = 12.88$	$N_9 = 236$ $M_9 = 13.02$

N = Number of Pupil Teachers and M = Mean Scores

Table 4.178

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Mission & Vision Dimensionof B.Ed. Programme on Pupil Teachers

Type of Institution – Government Colleges of Education (GCE)			
State → ↓	↓Mean →	Punjab	Himachal Pradesh	Haryana
		12.84	12.85	12.54
Punjab	12.84	-	.01	.30
Himachal Pradesh	12.85		-	.31
Haryana	12.54			-
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)			
State → ↓	↓Mean →	Punjab	Himachal Pradesh	Haryana
		12.87	13.76	13.86
Punjab	12.87	-	**.89****	**.99****
Himachal Pradesh	13.76		-	.10
Haryana	13.86			-
Type of Institution – Self-Financed Colleges of Education (SFCE)			
State → ↓	↓Mean →	Punjab	Himachal Pradesh	Haryana
		13.40	12.88	13.02
Punjab	13.40	-	.52	.38
Himachal Pradesh	12.88		-	.14
Haryana	13.02			-
State - Punjab (PB)			
Type of Institution → ↓	↓Mean →	Government	Grant-in Aid	Self-Financed
		12.84	12.87	13.40
Government	12.84	-	.03	.56
Grant-in Aid	12.87		-	.53
Self-Financed	13.40			-

State - Himachal Pradesh (HP)				
Type of Institution ———————→		Government	Grant-in Aid	Self-Financed
	↓Mean→	12.85	13.76	12.88
Government	12.85	-	.91**	.03
Grant-in Aid	13.76		-	.88**
Self-Financed	12.88			-
State – Haryana (HR)				
Type of Institution ———————→		Government	Grant-in Aid	Self-Financed
	↓Mean→	12.54	13.86	13.02
Government	12.54	-	1.32**	.48
Grant-in Aid	13.86		-	.84**
Self-Financed	13.02			-

*$q_{k\ at\ .05}$ = 4.17 & HSD or Q $_{critical\ at\ .05}$ = .60; $q_{k\ at\ .01}$ = 4.88 & HSD or Q $_{critical\ at\ .01}$ = .70; **α = .01 and * α = .05*

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.178.
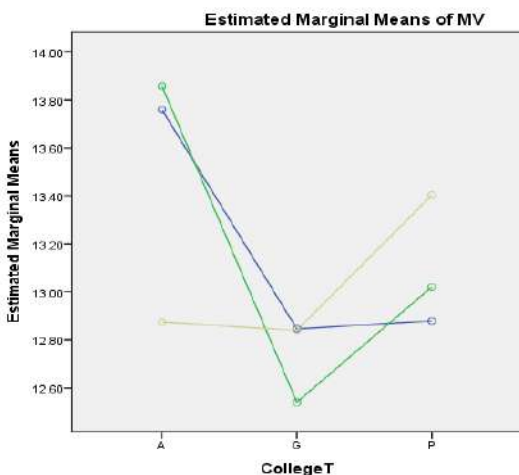
4.106-A (College =Constant)   4.106-B (State=Constant)
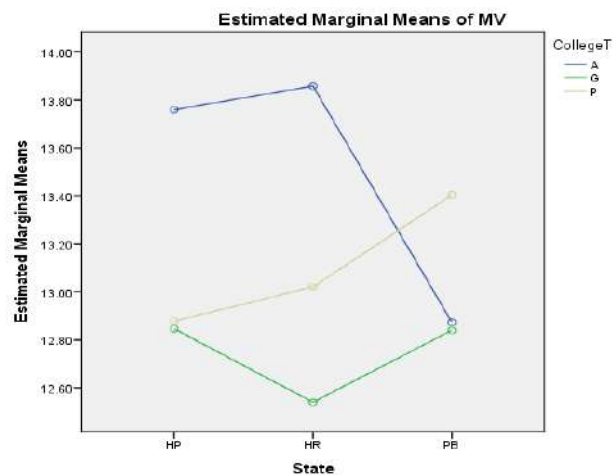
Figure 4.106   Interaction Effect of State (4.106-A) and Type of Institution (4.106-B) on the Impact of Mission & Vision Dimensionof B.Ed. Programme on Pupil Teachers

For significant interaction of State x Type of Institution, Tukey's HSD test shows that -

➤ For impact of B.Ed. programme on pupil teachers w. r. t. state (table 4.178 and figure 4.106-A) (i) at GCE comparisons of means - HP > PB (M_{HP-PB} = .01 ns); HP > HR (M_{HP-HR} = .31 ns) and PB > HR (M_{PB-HR} = .30 ns) are non significant at α = .05; (ii) at GIACE comparisons of means - HR > PB (M_{HR-PB} = .99**) and HP > PB (M_{HP-PB} = .89**) are significant at α = .01 whereas HR > HP (M_{HR-HP} = .10 ns) is not significant at α = .05; and (iii) at SFCE comparisons of means - PB > HP (M_{PB-HP} = .52 ns); HR > HP (M_{HR-HP} = .14 ns); and PB > HR (M_{PB-HR} = .38 ns) are non significant at α = .05.

Thus, the significant effect of the state depends on the type of institution.

➤ For impact of B.Ed. programme on pupil teachers w. r. t. type of institution (table 4.178 and figure 4.106-B) (i) at PB comparisons SFCE > GIACE ($M_{SFCE-GIACE}$ = .53 ns); SFCE > GCE ($M_{SFCE-GCE}$ = .56); and GIACE > GCE ($M_{GIACE-GCE}$ = .03 ns) are not significant at α = .05 (ii) at HP comparisons of means - GIACE > SFCE ($M_{GIACE-SFCE}$ = .88**) and GIACE > GCE ($M_{GIACE-GCE}$ = .91**) are significant at α = .01 whereas SFCE > GCE ($M_{SFCE-GCE}$ = .03 ns) is not significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE ($M_{GIACE-GCE}$ = 1.32**) and GIACE > SFCE ($M_{GIACE-SFCE}$ = .84**) are significant at α = .01 whereas SFCE > GCE ($M_{SFCE-GCE}$ = .48 ns) is not significant at α = .05.

Thus, the significant effect of the type of institution depends on the state.

Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of mission & vision dimension of B.Ed. Programme on pupil teachers.

Hence, state independently has no significant effect but the type of institution independently as well as both state and type of institution together have a significant effect on the impact of mission & vision dimension of B.Ed. Programme on pupil teachers.

4.2.1.5.2   Main and Interaction Effect of State and Type of Institution on the Impact of Programme Objectives Dimension of B. Ed. Programme on Pupil Teachers

Main Effect of State on the Impact of Programme Objectives Dimension of B.Ed. Programme on Pupil Teachers

There is a non-significant main effect of state on the impact of programme objectives (PO) dimension of B.Ed. programme on pupil teachers of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{PO – State (2, 1427)} = .11$ is not significant at $\alpha = .05$ (table 4.175). Thus, H_o stands accepted for the effect of state on the impact of programme objectives dimension of B.Ed. programme on pupil teachers.

Hence, the states of Punjab, Haryana, and Himachal Pradesh do not have significant differences on the impact of programme objectives dimension of B.Ed. programme on pupil teachers.

Main Effect of Type of Institution on the Impact of Programme Objectives Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of type of institution on the impact of programme objectives dimension of B.Ed. programme on pupil teachers of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{PO – TOI (2, 1427)} = 8.21$ is significant at $\alpha = .01$ (table 4.175). Thus, H_o stands not accepted for the effect of type of institution on the impact of programme objectives dimension of B.Ed. programme on pupil teachers.

Hence, the government, grant-in-aid, and self-financed colleges of education have a statistically significant impact of the programme objectives dimension of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of programme objectives dimension of B.Ed. programme on pupil teachers with respect to the type of institution.

Table 4.179

Means Matrix Showing Significance of Difference in Means regarding the Impact of Programme Objectives Dimension of B.Ed. Programme on Pupil Teachers with respect to Type of Institution

Type of Institution ⟶			Government	Grant-in Aid	Self-Financed
	N	**Mean** ⟶ **SD** ↓	12.52 1.74	13.00 1.60	13.00 1.85
Government	459	12.52 1.74	-	**4.20****	**4.30****
Grant-in Aid	394	13.00 1.60		-	.00
Self-Financed	583	13.00 1.85			-

***α = .01 and* **α = .05*

Table 4.179 shows the significant mean differences on the impact of programme objectives dimension of B.Ed. programme between the grant-in-aid (M_{GIACE} = 13.00) vs government (M_{GCE} = 12.52) colleges of education favouring the grant-in-aid colleges of education, as the value of t $_{(851)}$ = 4.20 is significant at α = .01; the self-financed (M_{SFCE} = 13.00) vs government (M_{GCE} = 12.52) colleges of education favouring the self-financed colleges of education, as the value of t $_{(1040)}$ = 4.30 is significant at α = .01; and non-significant mean difference on the impact of programme objectives dimension of B.Ed. programme exist between the grant-in-aid (M_{GIACE} = 13.00) vs self-financed (M_{SFCE} = 13.00) colleges of education, as the value of t $_{(975)}$ = .00 is not significant at α = .05 (table 4.179).Thus, H_o stands not accepted for pupil teachers in the government colleges of education vs grant-in-aid colleges of education and the government colleges of education vs self-financed colleges of education comparisons whereas H_o stands accepted for pupil teachers in the grant-in-aid colleges of education vs self-financed colleges of education comparison.

Hence, both the grant-in-aid colleges of education and self-financed colleges of education have significantly more effect than government colleges of education on the impact of programme objectives dimension of B.Ed. programme on pupil teachers whereas both the grant-in-aid colleges of education and self-financed colleges of education do not have

significant difference on the impact of programme objectives dimension of B.Ed. programme on pupil teachers.

Interaction Effect of State and Type of Institution on the Impact of Programme Objectives Dimension of B.Ed. Programme on Pupil Teachers

In table 4.175, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of programme objectives dimension of B.Ed. programme on pupil teachers is found to be significant, as the values of $F_{PO - State \times TOI (4, 1427)} = 15.83$ is significant at $\alpha = .01$. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of programme objectives dimension of B.Ed. programme on pupil teachers.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of programme objectives dimension of B.Ed. programme on pupil teachers varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.180 below:

Table 4.180

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Programme Objectives Dimension of B.Ed. Programme on Pupil Teachers

Type of Institution ↓ / State →	Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 194$ $M_1 = 12.40$	$N_2 = 91$ $M_2 = 12.71$	$N_3 = 174$ $M_3 = 12.56$
Grant-in Aid	$N_4 = 182$ $M_4 = 12.62$	$N_5 = 50$ $M_5 = 13.18$	$N_6 = 162$ $M_6 = 13.37$
Self-Financed	$N_7 = 265$ $M_7 = 13.52$	$N_8 = 82$ $M_8 = 12.72$	$N_9 = 236$ $M_9 = 12.51$

N = Number of Pupil Teachers and M = Mean Scores

Table 4.181

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Programme Objectives Dimensionof B.Ed. Programme on Pupil Teachers

Type of Institution – Government Colleges of Education (GCE)			
State ⟶	**Punjab**	**Himachal Pradesh**	**Haryana**
↓ ↓**Mean**⟶	12.40	12.71	12.56
Punjab	12.40	-	.31	.16
Himachal Pradesh	12.71		-	.15
Haryana	12.56			**-**

Type of Institution – Grant-in-Aid Colleges of Education (GIACE)			
State ⟶	**Punjab**	**Himachal Pradesh**	**Haryana**
↓ ↓**Mean**⟶	12.62	13.18	13.37
Punjab	12.62	-	.56	**.75**[*]
Himachal Pradesh	13.18		-	.19
Haryana	13.37			**-**

Type of Institution – Self-Financed Colleges of Education (SFCE)			
State ⟶	**Punjab**	**Himachal Pradesh**	**Haryana**
↓ ↓**Mean**⟶	13.52	12.72	12.51
Punjab	13.52	-	**.80**[**]	**1.01**[**]
Himachal Pradesh	12.72		-	.21
Haryana	12.51			**-**

State - Punjab (PB)			
Type of Institution ⟶	**Government**	**Grant-in Aid**	**Self-Financed**
↓ ↓**Mean**⟶	12.40	12.62	13.52
Government	12.40	-	.22	**1.12**[**]
Grant-in Aid	12.62		-	**.90**[**]
Self-Financed	13.52			**-**

State - Himachal Pradesh (HP)			
Type of Institution ⟶	**Government**	**Grant-in Aid**	**Self-Financed**
↓ ↓**Mean**⟶	12.71	13.18	12.72
Government	12.71	-	.47	.01
Grant-in Aid	13.18		-	.46
Self-Financed	12.72			**-**

State – Haryana (HR)			
Type of Institution ⟶	**Government**	**Grant-in Aid**	**Self-Financed**
↓ ↓**Mean**⟶	12.56	13.37	12.51
Government	12.56	-	**.81**[**]	.05
Grant-in Aid	13.37		-	**.86**[**]
Self-Financed	12.51			**-**

$q_{k \ at \ .05}$ = 4.17 & HSD or Q $_{critical \ at \ .05}$ = .65; $q_{k \ at \ .01}$ = 4.88 & HSD or Q $_{critical \ at \ .01}$ = .76; [**]$α$ = .01 and [*]$α$ = .05

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H₀: There is no significant interaction effect of state and type of institution on the impact of programme objectives dimension of B.Ed. programme on pupil teachers.

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.181.

<center>4.107-A (College =Constant)   4.107-B (State=Constant)</center>

Figure 4.107   Interaction Effect of State (4.107-A) and Type of Institution (4.107-B) on the Impact of Programme Objectives dimension of B.Ed. Programme on Pupil Teachers

For significant interaction of State x Type of Institution, Tukey's HSD test shows that -

> For impact of B.Ed. programme on pupil teachers w. r. t. state (table 4.181 and figure 4.107-A) (i) at GCE comparisons of means - HP > PB (M_{HP-PB} = .31 ns); HP > HR (M_{HP-HR} = .15 ns) and HR > PB (M_{HR-PB} = .16 ns) are non significant at α = .05; (ii) at GIACE comparisons of means - HR > PB (M_{HR-PB} = .75*) is significant at α = .05; HP > PB (M_{HP-PB} = .56 ns) and HR > HP (M_{HR-HP} = .19

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ns) are non significant at α = .05; and (iii) at SFCE comparisons of means - PB > HP (M $_{PB-HP}$ = .80**) and PB > HR (M $_{PB-HR}$ = 1.01**) are significant at α = .01 whereas HP > HR (M $_{HP-HR}$ = .21 ns) is not significant at α = .05.

Thus, the significant effect of the state depends on the type of institution.

➢ For impact of B.Ed. programme on pupil teachers w. r. t. type of institution (table 4.181 and figure 4.107-B) (i) at PB comparisons SFCE > GIACE (M $_{SFCE-GIACE}$ = .90**) and SFCE > GCE (M $_{SFCE-GCE}$ = 1.12**) are significant at α = .01 whereas GIACE > GCE (M $_{GIACE-GCE}$ = .22 ns) is not significant at α = .05 (ii) at HP comparisons of means - GIACE > SFCE (M $_{GIACE-SFCE}$ = .46 ns); GIACE > GCE (M $_{GIACE-GCE}$ = .47 ns); and SFCE > GCE (M $_{SFCE-GCE}$ = .01 ns) are non significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE (M $_{GIACE-GCE}$ = .81**) and GIACE > SFCE (M $_{GIACE-SFCE}$ = .86**) are significant at α = .01 whereas GCE > SFCE (M $_{GCE-SFCE}$ = .05 ns) is not significant at α = .05.

Thus, the significant effect of the type of institution depends on the state.

Thus, H$_o$ stands not accepted for the interaction effect of state and type of institution on the impact of programme objectives dimension of B.Ed. programme on pupil teachers.

Hence, state independently has no significant effect but the type of institution independently as well as state and type of institution together have a significant effect on the impact of programme objectives dimension of B.Ed. programme on pupil teachers.

4.2.1.5.3   Main and Interaction Effect of State and Type of Institution on the Impact of Academic Input Dimension of B.Ed. Programme on Pupil Teachers

Main Effect of State on the Impact of Academic Input Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of state on the impact of academic input (AI) dimension of B.Ed. programme on pupil teachers of the states of Punjab, Himachal Pradesh, and Haryana, as the value of F $_{AI-State (2, 1427)}$ = 17.87 is significant at α = .01 (table 4.175). Thus, H$_o$ stands not accepted for the effect of state on the impact of academic input dimension of B.Ed. programme on pupil teachers.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have a statistically significant impact of the academic input dimension of B.Ed. programme on pupil teachers. The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of academic input dimension of B.Ed. programme on pupil teachers with respect to the state.

Table 4.182

Means Matrix Showing Significance of Difference in Means regarding the Impact of Academic Input Dimension of B.Ed. Programme on Pupil Teachers with respect to State

State			Punjab	Himachal Pradesh	Haryana
	N	**Mean** → **SD** ↓	9.52 1.37	8.66 1.78	9.47 1.58
Punjab	641	9.52 1.37	-	**6.57**[**]	.59
Himachal Pradesh	223	8.66 1.78		**-**	**5.94**[**]
Haryana	572	9.47 1.58			**-**

[**]$\alpha = .01$ *and* [*]$\alpha = .05$

Table 4.182 shows the significant mean differences on the impact of the academic input dimension of B.Ed. programme between the state of Punjab ($M_{PB} = 9.52$) vs Himachal Pradesh ($M_{HP} = 8.66$) favouring Punjab,as the value of t $_{(862)} = 6.57$ is significant at $\alpha = .01$; the state of Haryana ($M_{HR} = 9.47$) vs Himachal Pradesh ($M_{HP} = 8.66$) favouring Haryana,as the value of t $_{(793)} = 5.94$ is significant at $\alpha = .01$; and non-significant mean difference on the impact of academic input dimension of B.Ed. programme exist between the state of Punjab ($M_{PB} = 9.52$) vs Haryana ($M_{HR} = 9.47$), as the value of t $_{(1211)} = .59$ is non-significant at $\alpha = .05$ (table 4.182). Thus, H_o stands not accepted for pupil teachers of the state of Punjab vs Himachal Pradesh and Haryana vs Himachal whereas H_o stands accepted for pupil teachers of the state of Punjab vs Haryana.

Hence, the impact of academic input dimension of B.Ed. programme is significantly more in Punjab and Haryana states than that of Himachal Pradesh whereas both Punjab and Haryana do not have a significant difference on the impact of academic input dimension of B.Ed. programme on pupil teachers.

Main Effect of Type of Institution on the Impact of Academic Input Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of type of institution on the impact of academic input (AI) dimension of B.Ed. programme on pupil teachers of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{AI - TOI (2, 1427)} = 19.73$ is significant at $\alpha = .01$ (table 4.175). Thus, H_o stands not accepted for the effect of type of institution on the impact of academic input dimension of B.Ed. programme on pupil teachers.

Hence, the government, grant-in-aid, and self-financed colleges of education have a statistically significant impact of B.Ed. programme on pupil teachers.

Table 4.183

Means Matrix Showing Significance of Difference in Means regarding the Impact of Academic Input Dimension of B.Ed. Programme on Pupil Teachers with respect to Type of Institution

Type of Institution ⟶			Government	Grant-in Aid	Self-Financed
↓	N	Mean ⟶ SD ↓	8.98 1.38	9.55 1.45	9.55 1.70
Government	459	8.98 1.38	-	**5.85**[**]	**5.97**[**]
Grant-in Aid	394	9.55 1.45		-	.00
Self-Financed	583	9.55 1.70			-

[**]$\alpha = .01$ *and* [*]$\alpha = .05$

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H$_o$: There is no significant difference in the impact of academic input dimension of B.Ed. programme on pupil teachers with respect to the type of institution.

Table 4.183 shows the significant mean differences on the impact of the academic input dimension of B.Ed. programme between the grant-in-aid (M$_{GIACE}$ = 9.55) vs government (M$_{GCE}$ = 8.98) colleges of education favouring the grant-in-aid colleges of education, as the value of t $_{(851)}$ = 5.85 is significant at α = .01; the self-financed (M$_{SFCE}$ = 9.55) vs government (M$_{GCE}$ = 8.98) colleges of education favouring the self-financed colleges of education, as the value of t $_{(1040)}$ = 4.30 is significant at α = .01; and non-significant mean differences on the impact of AI dimension of B.Ed. programme exist between the grant-in-aid (M$_{GIACE}$ = 9.55) vs self-financed (M$_{SFCE}$ = 9.55) colleges of education, as the value of t $_{(975)}$ = .00 is non-significant at α = .05.Thus, H$_o$ stands not accepted for pupil teachers in the government colleges of education vs grant-in-aid colleges of education and the government colleges of education vs self-financed colleges of education comparisons whereas H$_o$ stands accepted for pupil teachers in the grant-in-aid colleges of education vs self-financed colleges of education comparison.

Hence, both the grant-in-aid colleges of education and self-financed colleges of education have significantly more effect than government colleges of education on the impact of B.Ed. programme on pupil teachers whereas both the grant-in-aid colleges of education and self-financed colleges of education do not have significant difference on the impact of academic input dimension of B.Ed. programme on pupil teachers.

Interaction Effect of State and Type of Institution on the Impact of Academic Input Dimension of B.Ed. Programme on Pupil Teachers

In table 4.175, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of academic input dimension of B.Ed. programme on pupil teachers is found to be significant, as the value of F $_{AI - State x TOI (4, 1427)}$ = 23.32 is significant at α = .01. Thus, H$_o$ stands not accepted for the interaction effect of state and type of institution on the impact of academic input dimension of B.Ed. programme on pupil teachers.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of academic input dimension of B.Ed. Programme on pupil teachers varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.184.

Table 4.184

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Academic Input Dimension of B.Ed. Programme on Pupil Teachers

Type of Institution ↓	State →	Punjab	Himachal Pradesh	Haryana
Government		$N_1 = 194$ $M_1 = 9.18$	$N_2 = 91$ $M_2 = 8.54$	$N_3 = 174$ $M_3 = 9.00$
Grant-in Aid		$N_4 = 182$ $M_4 = 9.13$	$N_5 = 50$ $M_5 = 9.76$	$N_6 = 162$ $M_6 = 9.94$
Self-Financed		$N_7 = 265$ $M_7 = 10.03$	$N_8 = 82$ $M_8 = 8.12$	$N_9 = 236$ $M_9 = 9.49$

N = Number of Pupil Teachers and M = Mean Scores

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H$_o$: There is no significant interaction effect of state and type of institution on the impact of academic input dimension of B.Ed. programme on pupil teachers.

Table 4.185

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the impact of Academic Input Dimensionof B.Ed. Programme on Pupil Teachers

Type of Institution – Government Colleges of Education (GCE)				
State →	↓Mean →	Punjab	Himachal Pradesh	Haryana
		9.18	8.54	9.00
Punjab	9.18	-	**.64**[*]	.18
Himachal Pradesh	8.54		-	.46
Haryana	9.00			**-**

Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean➤	9.13	9.76	9.94
Punjab	9.13	-	**.63***	**.81****
Himachal Pradesh	9.76		-	.18
Haryana	9.94			**-**
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean➤	10.03	8.12	9.49
Punjab	10.03	-	**1.91****	.54
Himachal Pradesh	8.12		-	**1.37****
Haryana	9.49			**-**
State - Punjab (PB)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean➤	9.18	9.13	10.03
Government	9.18	-	.05	**.85****
Grant-in Aid	9.13		-	**.90****
Self-Financed	10.03			**-**
State - Himachal Pradesh (HP)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean➤	8.54	9.76	8.12
Government	8.54	-	**1.22****	.42
Grant-in Aid	9.76		-	**1.64****
Self-Financed	8.12			**-**
State – Haryana (HR)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean➤	9.00	9.94	9.49
Government	9.00	-	**.94****	.49
Grant-in Aid	9.94		-	.45
Self-Financed	9.49			**-**

$q_{k\,at\,.05}$ = 4.17 & HSD or $Q_{critical\,at\,.05}$ = .55; $q_{k\,at\,.01}$ = 4.88 & HSD or $Q_{critical\,at\,.01}$ = .65; **$α$ = .01 and *$α$ = .05

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.185.

For significant interaction of State x Type of Institution, Tukey's HSD test shows that -

> For impact of B.Ed. programme on pupil teachers w. r. t. state (table 4.185 and figure 4.108-A) (i) at GCE comparisons of means - PB > HP (M_{PB-HP} = .64*) is significant at α = .05; HR > HP (M_{HR-HP} = .46 ns) and PB > HR (M_{PB-HR} = .18 ns) are non significant at α = .05; (ii) at GIACE comparisons of means - HR > PB (M_{HR-PB} = .81**) is significant at α = .01; HP > PB (M_{HP-PB} = .63*) is significant at α = .05; and HR > HP (M_{HR-HP} = .18 ns) is not significant at α = .05; and (iii) at SFCE comparisons of means - PB > HP (M_{PB-HP} = 1.91**) and HR > HP (M_{HR-HP}=1.37**) are significant at α = .01 whereas PB > HR (M_{PB-HR} = .54 ns) is not significant at α = .05.

Thus, the significant effect of the state depends on the type of institution.
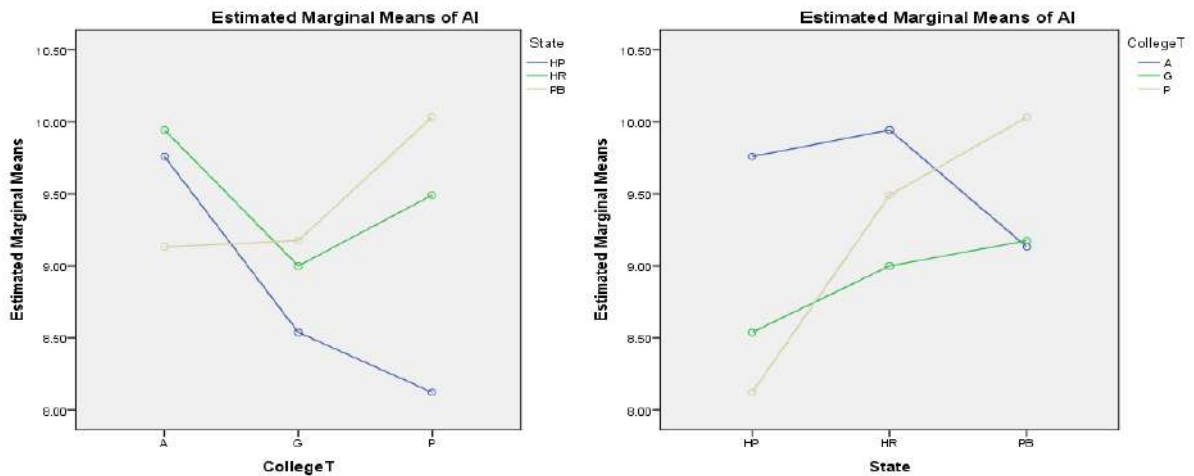
4.108-A (College =Constant)   4.108-B (State=Constant)

Figure 4.108 Interaction Effect of State (4.108-A) and Type of Institution (4.108-B) on the Impact of Academic Input dimension of B.Ed. Programme on Pupil Teachers

> For impact of B.Ed. programme on pupil teachers w. r. t. type of institution (table 4.185 and figure 4.108-B) (i) at PB comparisons SFCE > GIACE ($M_{SFCE-GIACE}$ = .90**) and SFCE > GCE ($M_{SFCE-GCE}$ = .85**) are significant at α = .01 whereas GCE > GIACE ($M_{GCE-GIACE}$ = .05 ns) is not significant at α = .05 (ii) at HP comparisons of means - GIACE > SFCE ($M_{GIACE-SFCE}$ = 1.64**) and GIACE >

GCE (M $_{GIACE - GCE}$ = 1.22**) are significant at α = .01 whereas GCE > SFCE (M $_{GCE - SFCE}$ = .42 ns) is not significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE (M $_{GIACE - GCE}$ = .94**) significant at α = .01 whereas GIACE > SFCE (M $_{GIACE - SFCE}$ = .45 ns) and SFCE > GCE (M $_{SFCE - GCE}$ = .49 ns) are non significant atα = .05.

Thus, the significant effect of the type of institution depends on the state.

Thus, H$_o$ stands not accepted for the interaction effect of state and type of institution on the impact of academic input dimension of B.Ed. Programme on pupil teachers.

Hence, state and type of institution independently as well as together have a significant effect on the impact of academic input dimension of B.Ed. programme on pupil teachers.

4.2.1.5.4 Main and Interaction Effect of State and Type of Institution on the Impact of Resource Input Dimension of B. Ed. Programme on Pupil Teachers

Main Effect of State on the Impact of Resource Input Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of state on the impact of resource input (RI) dimension of B.Ed. programme on pupil teachers of the states of Punjab, Himachal Pradesh, and Haryana, as the value of F $_{RI - State (2, 1427)}$ = 78.13 is significant at α = .01 (table 4.175). Thus, H$_o$ stands not accepted for the effect of state on the impact of RI dimension of B.Ed. programme on pupil teachers.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have a statistically significant impact of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H$_o$: There is no significant difference in the impact of resource input dimension of B.Ed. programme on pupil teachers with respect to the state.

Table 4.186

Means Matrix Showing Significance of Difference in Means regarding the Impact of Resource Input Dimension of B.Ed. Programme on Pupil Teachers with respect to State

State			Punjab	Himachal Pradesh	Haryana
	N	Mean → SD ↓	9.66 1.49	7.74 2.39	9.52 1.76
Punjab	641	9.66 1.49	-	**11.26**[**]	1.49
Himachal Pradesh	223	7.74 2.39		**-**	**10.10**[**]
Haryana	572	9.52 1.76			**-**

[**]$\alpha = .01$ *and* [*]$\alpha = .05$

Table 4.186 shows the significant mean differences on the impact of resource input dimension of B.Ed. programme between the state of Punjab ($M_{PB} = 9.66$) vs Himachal Pradesh ($M_{HP} = 7.74$) favouring Punjab,as the value of t $_{(862)} = 11.26$ is significant at $\alpha = .01$; the state of Haryana ($M_{HR} = 9.52$) vs Himachal Pradesh ($M_{HP} = 7.74$) favouring Haryana,as the value of t $_{(793)} = 10.10$ is significant at $\alpha = .01$; and non-significant mean differences on the impact of RI dimension of B.Ed. programme exist between the state of Punjab ($M_{PB} = 9.66$) vs Haryana ($M_{HR} = 9.52$), as the value of t $_{(1211)} = 1.49$ is not significant at $\alpha = .05$. Thus, H_o stands not accepted for pupil teachers of the state of Punjab vs Himachal Pradesh and Haryana vs Himachal whereas H_o stands accepted for pupil teachers of the state of Punjab vs Haryana.

Hence, the impact of resource input dimension of B.Ed. programme is significantly more in Punjab and Haryana states than that of Himachal Pradesh whereas both Punjab and Haryana do not have a significant difference on the impact of resource input dimension of B.Ed. programme on pupil teachers.

Main Effect of Type of Institution on the Impact of Resource Input Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of type of institution on the impact of resource input dimension of B.Ed. programme on pupil teachers of the government, grant-in-aid, and

self-financed colleges of education, as the value of $F_{RI-TOI (2, 1427)} = 51.47$ is significant at $\alpha = .01$ (table 4.175). Thus, H_o stands not accepted for the effect of type of institution on the impact of resource input dimension of B.Ed. programme on pupil teachers.

Hence, the government, grant-in-aid, and self-financed colleges of education have a statistically significant impact of the resource input dimension of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of resource input dimension of B.Ed. programme on pupil teachers with respect to the type of institution.

Table 4.187

Means Matrix Showing Significance of Difference in Means regarding the Impact of Resource Input Dimension of B.Ed. Programme on Pupil Teachers with respect to Type of Institution

Type of Institution ⟶			Government	Grant-in Aid	Self-Financed
↓	**N**	**Mean ⟶** **SD ↓**	8.96 1.87	9.83 1.44	9.22 2.08
Government	459	8.96 1.87	-	**7.67****	**2.12***
Grant-in Aid	394	9.83 1.44		-	**5.42****
Self-Financed	583	9.22 2.08			-

**$\alpha = .01$ *and* *$\alpha = .05$

Table 4.187 shows the significant mean differences on the impact of resource input dimension of B.Ed. programme between the grant-in-aid ($M_{GIACE} = 9.83$) vs government ($M_{GCE} = 8.96$) colleges of education favouring the grant-in-aid colleges of education, as the value of $t_{(851)} = 7.67$ is significant at $\alpha = .01$; the self-financed ($M_{SFCE} = 9.22$) vs government ($M_{GCE} = 8.96$) colleges of education favouring the self-financed colleges of education, as the value of $t_{(1040)} = 2.12$ is significant at $\alpha = .01$; and the grant-in-aid ($M_{GIACE} = 9.83$) vs self-financed ($M_{SFCE} = 9.22$) colleges of education favouring the

grant-in-aid colleges of education, as the value of t $_{(975)}$ = 5.42 is significant at α = .05.Thus, H$_o$ stands not accepted for pupil teachers in the government colleges of education vs grant-in-aid colleges of education; the government colleges of education vs self-financed colleges of education; and the grant-in-aid colleges of education vs self-financed colleges of education comparisons.

Hence, both the grant-in-aid colleges of education and self-financed colleges of education have significantly more effect than government colleges of education on the impact of resource input dimension of B.Ed. programme on pupil teachers; and the grant-in-aid colleges of education have significantly more effect than the self-financed colleges of education on the impact of resource input dimension of B.Ed. programme on pupil teachers.

Interaction Effect of State and Type of Institution on the Impact of Resource Input Dimension of B.Ed. Programme on Pupil Teachers

In table 4.175, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of resource input (RI) dimension of B.Ed. programme on pupil teachers is found to be significant, as the values of F $_{RI - State \times TOI (4, 1427)}$ = 26.98 is significant at α = .01. Thus, H$_o$ stands not accepted for the interaction effect of state and type of institution on the impact of resource input dimension of Input factor of B.Ed. programme on pupil teachers.

Table 4.188

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Resource Input Dimension of B.Ed. Programme on Pupil Teachers

Type of Institution ↓ State →	Punjab	Himachal Pradesh	Haryana
Government	N_1 = 194 M_1 = 9.37	N_2 = 91 M_2 = 7.59	N_3 = 174 M_3 = 9.22
Grant-in Aid	N_4 = 182 M_4 = 9.59	N_5 = 50 M_5 = 9.82	N_6 = 162 M_6 = 10.10
Self-Financed	N_7 = 265 M_7 = 9.91	N_8 = 82 M_8 = 6.63	N_9 = 236 M_9 = 9.34

N = Number of Pupil Teachers and M = Mean Scores

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of RI dimension of B.Ed. Programme on pupil teachers varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.188.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:
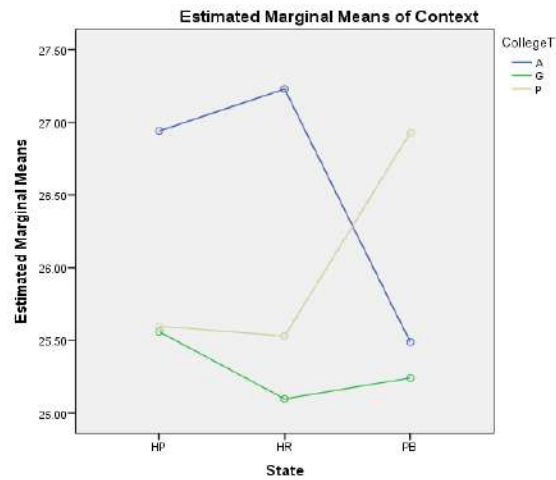
H_o: There is no significant interaction effect of state and type of institution on the impact of resource input dimension of B.Ed. programme on pupil teachers.

Table 4.189

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Resource Input Dimensionof B.Ed. Programme on Pupil Teachers

Type of Institution – Government Colleges of Education (GCE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean➤	9.37	7.59	9.22
Punjab	9.37	-	**1.78****	.15
Himachal Pradesh	7.59		-	**1.63****
Haryana	9.22			**-**
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean➤	9.59	9.82	10.10
Punjab	9.59	-	.23	.51
Himachal Pradesh	9.82		-	.28
Haryana	10.10			**-**
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean➤	9.91	6.63	9.34
Punjab	9.91	-	**3.28****	.57
Himachal Pradesh	6.63		-	**2.71****
Haryana	9.34			**-**

State - Punjab (PB)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean⟶	9.37	9.59	9.91
Government	9.37	-	.22	.54
Grant-in Aid	9.59		-	.32
Self-Financed	9.91			**-**
State - Himachal Pradesh (HP)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean⟶	7.59	9.82	6.63
Government	7.59	-	**2.23**[**]	**.96**[**]
Grant-in Aid	9.82		-	**3.19**[**]
Self-Financed	6.63			**-**
State – Haryana (HR)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean⟶	9.22	10.10	9.34
Government	9.22	-	**.88**[**]	.12
Grant-in Aid	10.10		-	**.76**[**]
Self-Financed	9.34			**-**

$q_{k\ at\ .05} = 4.17$ & HSD or $Q_{critical\ at\ .05} = .63$; $q_{k\ at\ .01} = 4.88$ & HSD or $Q_{critical\ at\ .01} = .74$;[**]$\alpha = .01$ and [*]$\alpha = .05$

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.189.

For significant interaction of State x Type of Institution, Tukey's HSD test shows that -

➢ For impact of B.Ed. programme on pupil teachers w. r. t. state (table 4.189 and figure 4.109-A) (i) at GCE comparisons of means - PB > HP ($M_{PB – HP} = 1.78$[**]) and HR > HP ($M_{HR – HP} = 1.63$[**]) are significant at $\alpha = .01$ whereas PB > HR ($M_{PB – HR} = .15$ ns) is not significant at $\alpha = .05$; (ii) at GIACE comparisons of means - HR > PB ($M_{HR –PB} = .51$ ns); HP > PB ($M_{HP – PB} = .23$ ns); and HR > HP ($M_{HR – HP} = .28$ ns) are non significant at $\alpha = .05$; and (iii) at SFCE comparisons of means - PB > HP ($M_{PB – HP} = 3.28$[**]) and HR > HP ($M_{HR – HP} =2.71$[**]) are significant at $\alpha = .01$ whereas PB > HR ($M_{PB – HR} = .57$ ns) is not significant at $\alpha = .05$.

Thus, the significant effect of the state depends on the type of institution.
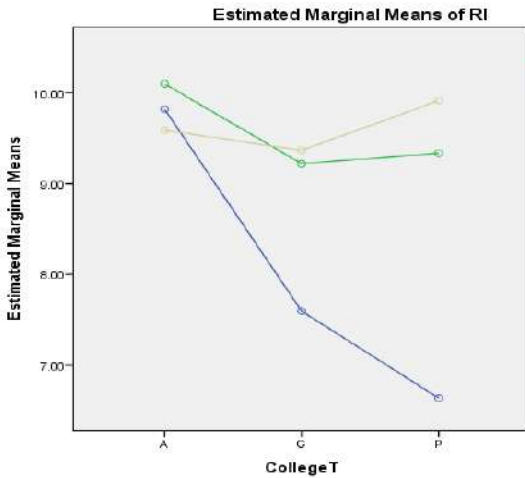
4.109-A (College =Constant)   **4.109-B (State=Constant)**
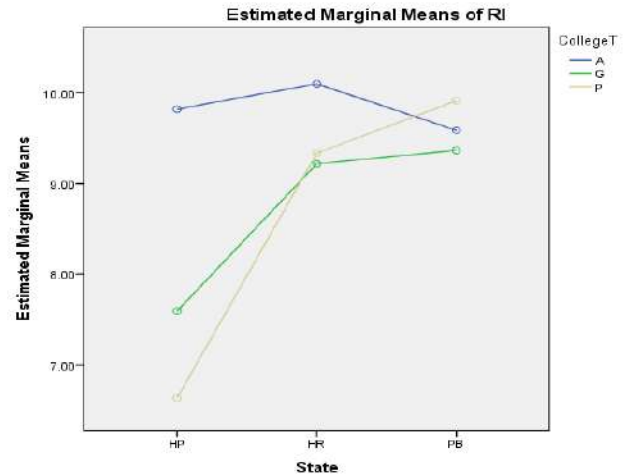
Figure 4.109 Interaction Effect of State (4.109-A) and Type of Institution (4.109-B) on the Impact of Resource Input Dimensionof B.Ed. Programme on Pupil Teachers

➢ For impact of B.Ed. programme on pupil teachers w. r. t. type of institution (table 4.189 and figure 4.109-B) (i) at PB comparisons SFCE > GIACE ($M_{SFCE-GIACE}$ = .32 ns); SFCE > GCE ($M_{SFCE-GCE}$ = .54 ns); and GIACE > GCE ($M_{GIACE-GCE}$ = .22 ns) are non significant at α = .05 (ii) at HP comparisons of means - GIACE > SFCE ($M_{GIACE-SFCE}$ = 3.19[**]); GIACE > GCE ($M_{GIACE-GCE}$ = 2.23[**]); and GCE > SFCE ($M_{GCE-SFCE}$ = .96[**]) are significant at α = .01; and (iii) at HR comparisons of means - GIACE > GCE ($M_{GIACE-GCE}$ = .88[**]) and GIACE > SFCE ($M_{GIACE-SFCE}$ = .76[**]) are significant at α = .01 whereas SFCE > GCE ($M_{SFCE-GCE}$ = .12 ns) is not significant atα = .05.

Thus, the significant effect of the type of institution depends on the state.

Thus, H$_o$ stands not accepted for the interaction effect of state and type of institution on the impact of resource input dimension of B.Ed. programme on pupil teachers.

Hence, state and type of institution independently as well as together have a significant effect on the impact of resource input dimension of B.Ed. Programme on pupil teachers.

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4.2.1.5.5   Main and Interaction Effect of State and Type of Institution on the Impact of Training Input Dimension of B.Ed. Programme on Pupil Teachers

Main Effect of State on the Impact of Training Input Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of state on the impact of training input (TI) dimension of B.Ed. programme on pupil teachers of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{TI-State\ (2,\ 1427)}$ = 9.02 is significant at α = .01 (table 4.175). Thus, H_o stands not accepted for the effect of state on the impact of training input dimension of B.Ed. programme on pupil teachers.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have statistically significant IBP on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of training input dimension of B.Ed. programme on pupil teachers with respect to the state.

Table 4.190

Means Matrix Showing Significance of Difference in Means regarding the Impact of Training Input Dimension of B.Ed. Programme on Pupil Teachers with respect to State

State			Punjab	Himachal Pradesh	Haryana
	N	Mean→ SD ↓	19.21 2.45	18.08 2.53	18.94 2.83
Punjab	641	19.21 2.45	-	**5.79****	1.77
Himachal Pradesh	223	18.08 2.53		-	**4.16****
Haryana	572	18.94 2.83			-

**α = .01 and *α = .05

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Table 4.190 shows the significant mean differences on the impact of training input dimension of B.Ed. programme between the state of Punjab (M_{PB} = 19.21) vs Himachal Pradesh (M_{HP} = 18.08) favouring Punjab,as the value of t $_{(862)}$ = 5.79 is significant at α = .01; the state of Haryana (M_{HR} = 18.94) vs Himachal Pradesh (M_{HP} = 18.08) favouring Haryana,as the value of t $_{(793)}$ = 4.16 is significant at α = .01; and non-significant mean differences on the impact of training input dimension of B.Ed. programme exist between the state of Punjab (M_{PB} = 19.21) vs Haryana (M_{HR} = 9.47), as the value of t $_{(1211)}$ = 1.77 is not significant at α = .05. Thus, H_o stands not accepted for the pupil teachers of the state of Punjab vs Himachal Pradesh and Haryana vs Himachal whereas H_o stands accepted for the pupil teachers of the state of Punjab vs Haryana.

Hence, the impact of training input dimension of B.Ed. programme is significantly more in Punjab and Haryana states than that of Himachal Pradesh whereas both Punjab and Haryana do not have a significant difference on the impact of training input dimension of B.Ed. programme on pupil teachers.

Main Effect of Type of Institution on the Impact of Training Input Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of type of institution on the impact of training input (TI) dimension of B.Ed. programme on pupil teachers of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{TI – TOI (2, 1427)}$ = 8.81 is significant at α = .01 (table 4.175). Thus, H_o stands not accepted for the effect of type of institution on the impact of training input dimension of B.Ed. programme on pupil teachers.

Hence, the government, grant-in-aid, and self-financed colleges of education have a statistically significant impact of the training input dimension of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of training input dimension of B.Ed. programme on pupil teachers with respect to the type of institution.

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Table 4.191

Means Matrix Showing Significance of Difference in Means regarding the Impact of Training Input Dimension of B.Ed. Programme on Pupil Teachers with respect to Type of Institution

Type of Institution ⟶			Government	Grant-in Aid	Self-Financed
	N	**Mean ⟶** **SD ↓**	18.52 2.46	19.17 2.56	19.09 2.81
Government	459	18.52 2.46	-	**3.76**[**]	**3.49**[**]
Grant-in Aid	394	19.17 2.56		-	.46
Self-Financed	583	19.09 2.81			-

[**]$\alpha = .01$ and [*]$\alpha = .05$

Table 4.191 shows the significant mean differences on the impact of training input dimension of B.Ed. programme between the grant-in-aid ($M_{GIACE} = 19.17$) vs government ($M_{GCE} = 18.52$) colleges of education favouring the grant-in-aid colleges of education, as the value of t $_{(851)} = 3.76$ is significant at $\alpha = .01$; the self-financed ($M_{SFCE} = 19.09$) vs government ($M_{GCE} = 18.52$) colleges of education favouring the self-financed colleges of education, as the value of t $_{(1040)} = 3.49$ is significant at $\alpha = .01$; and non-significant mean differences on the impact of training input dimension of B.Ed. programme exist between the grant-in-aid ($M_{GIACE} = 19.17$) vs self-financed ($M_{SFCE} = 19.09$) colleges of education, as the value of t $_{(975)} = .46$ is not significant at $\alpha = .05$. Thus, H$_o$ stands not accepted for pupil teachers in the government colleges of education vs grant-in-aid colleges of education and the government colleges of education vs self-financed colleges of education comparisons whereas H$_o$ stands accepted for pupil teachers in the grant-in-aid colleges of education vs self-financed colleges of education comparison.

Hence, both the grant-in-aid colleges of education and self-financed colleges of education have significantly more effect than government colleges of education on the impact of B.Ed. programme on pupil teachers whereas the grant-in-aid colleges of education and self-financed colleges of education do not have significant difference on the impact of training input dimension of B.Ed. programme on pupil teachers.

Interaction Effect of State and Type of Institution on the Impact of Training Input Dimension of B.Ed. Programme on Pupil Teachers

In table 4.175, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of training input (TI) dimension of B.Ed. programme on pupil teachers is found to be significant, as the value of $F_{\text{TI - State x TOI (4, 1427)}} = 18.51$ is significant at $\alpha = .01$. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of training input dimension of B.Ed. programme on pupil teachers.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of training input dimension of B.Ed. programme on pupil teachers varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.192.

Table 4.192

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Training Input Dimension of B.Ed. Programme on Pupil Teachers

Type of Institution ↓ State →	Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 194$ $M_1 = 18.81$	$N_2 = 91$ $M_2 = 17.92$	$N_3 = 174$ $M_3 = 18.51$
Grant-in Aid	$N_4 = 182$ $M_4 = 18.52$	$N_5 = 50$ $M_5 = 19.36$	$N_6 = 162$ $M_6 = 19.83$
Self-Financed	$N_7 = 265$ $M_7 = 19.98$	$N_8 = 82$ $M_8 = 17.48$	$N_9 = 236$ $M_9 = 18.64$

N = Number of Pupil Teachers and M = Mean Scores

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of training input dimension of B.Ed. programme on pupil teachers.

Table 4.193
Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Training Input Dimensionof B.Ed. Programme on Pupil Teachers

Type of Institution – Government Colleges of Education (GCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	↓**Mean**⟶	18.81	17.92	18.51
Punjab	18.81	-	.89	.30
Himachal Pradesh	17.92		-	.59
Haryana	18.51			**-**
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	↓**Mean**⟶	18.52	19.36	19.83
Punjab	18.52	-	.84	**1.31****
Himachal Pradesh	19.36		-	.47
Haryana	19.83			**-**
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	↓**Mean**⟶	19.98	17.48	18.64
Punjab	19.98	-	**2.50****	**1.34****
Himachal Pradesh	17.48		-	**1.16****
Haryana	18.64			**-**
State - Punjab (PB)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**⟶	18.81	18.52	19.98
Government	18.81	-	.29	**1.17****
Grant-in Aid	18.52		-	**1.46****
Self-Financed	19.98			**-**
State - Himachal Pradesh (HP)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**⟶	17.92	19.36	17.48
Government	17.92	-	**1.44****	.44
Grant-in Aid	19.36		-	**1.88****
Self-Financed	17.48			**-**
State – Haryana (HR)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**⟶	18.51	19.83	18.64
Government	18.51	-	**1.32****	.13
Grant-in Aid	19.83		-	**1.19****
Self-Financed	18.64			**-**

$q_{k\ at\ .05}$ = 4.17 & HSD or Q $_{critical\ at\ .05}$ = .96; $q_{k\ at\ .01}$ = 4.88 & HSD or Q $_{critical\ at\ .01}$ = 1.13;**α = .01 and *α = .05

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.193.
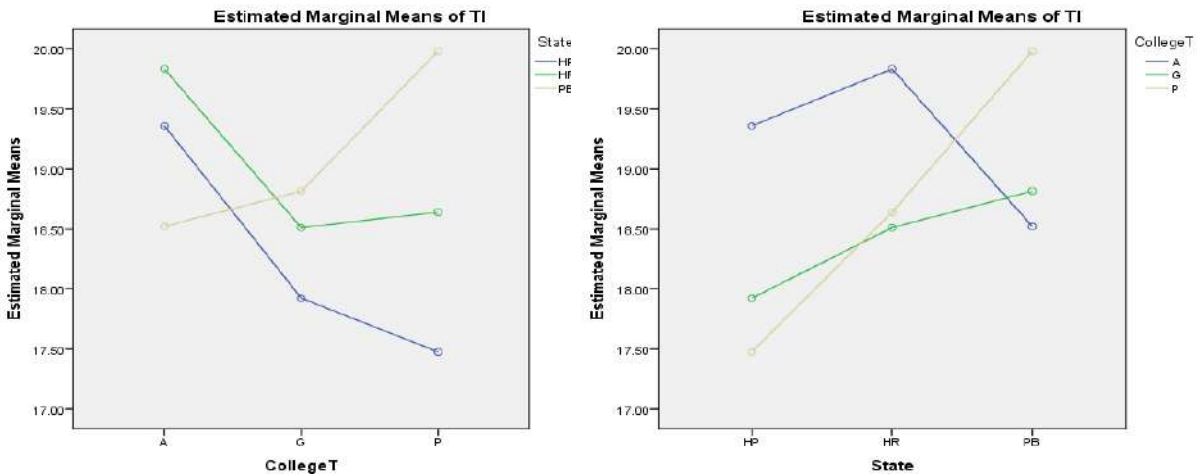
4.110-A (College =Constant)   4.110-B (State=Constant)

Figure 4.110 Interaction Effect of State (4.110-A) and Type of Institution (4.110-B) on the Impact of Training Input dimension of B.Ed. Programme on Pupil Teachers

For significant interaction of State x Type of Institution, Tukey's HSD test shows that -

➤ For impact of B.Ed. programme on pupil teachers w. r. t. state (table 4.193 and figure 4.110-A) (i) at GCE comparisons of means - PB > HP ($M_{PB – HP}$ = .89 ns); HR > HP ($M_{HR – HP}$ = .59 ns); and PB > HR ($M_{PB – HR}$ = .30 ns) are non significant at α = .05; (ii) at GIACE comparisons of means - HR > PB ($M_{HR –PB}$ = .1.31**) is significant at α = .01 whereas HP > PB ($M_{HP – PB}$ = .84 ns) and HR > HP ($M_{HR – HP}$ = .47 ns) are non significant at α = .05; and (iii) at SFCE comparisons of means - PB > HP ($M_{PB – HP}$ = 2.50**); HR > HP ($M_{HR – HP}$ = 1.16**); and PB > HR ($M_{PB – HR}$ = 1.34**) are significant at α = .01.

Thus, the significant effect of the state depends on the type of institution.

> For impact of B.Ed. programme on pupil teachers w. r. t. type of institution (table 4.193 and figure 4.110-B) (i) at PB comparisons SFCE > GIACE ($M_{SFCE - GIACE}$ = 1.46[**]) and SFCE > GCE ($M_{SFCE - GCE}$ = 1.17[**]) are significant at α = .01whereas GCE > GIACE ($M_{GCE - GIACE}$ = .29 ns) is not significant at α = .05 (ii) at HP comparisons of means - GIACE > SFCE ($M_{GIACE - SFCE}$ = 1.88[**]) and GIACE > GCE ($M_{GIACE - GCE}$ = 1.44[**]) are significant at α = .01whereas GCE > SFCE ($M_{GCE - SFCE}$ = .44 ns) is not significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE ($M_{GIACE - GCE}$ = 1.32[**]) and GIACE > SFCE ($M_{GIACE - SFCE}$ = 1.19[**]) are significant at α = .01 whereas SFCE > GCE ($M_{SFCE - GCE}$ = .13 ns) is not significant atα = .05.

Thus, the significant effect of the type of institution depends on the state.

Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of training input dimension of B.Ed. programme on pupil teachers.

Hence, state and type of institution independently as well as together have a significant effect on the impact of training input dimension of B.Ed. programme on pupil teachers.

4.2.1.5.6   Main and Interaction Effect of State and Type of Institution on the Impact of Professional Input Dimension of B. Ed. Programme on Pupil Teachers

Main Effect of State on the Impact of Professional Input Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of state on the impact of professional input (PI) dimension of B.Ed. programme on pupil teachers of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{PI - State (2, 1427)}$ = 55.79 is significant at α = .01 (table 4.175). Thus, H_o stands not accepted for the effect of state on the impact of professional input dimension of B.Ed. programme on pupil teachers.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have a statistically significant impact of the professional input dimension of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of professional input dimension of B.Ed. programme on pupil teachers with respect to the state.

Table 4.194

Means Matrix Showing Significance of Difference in Means regarding the Impact of Professional Input Dimension of B. Ed. Programme on Pupil Teachers with respect to State

State			Punjab	Himachal Pradesh	Haryana
	N	**Mean** **SD**	6.39 1.01	5.38 1.32	6.38 1.19
Punjab	641	6.39 1.01	-	**10.41****	.16
Himachal Pradesh	223	5.38 1.32		**-**	**9.86****
Haryana	572	6.38 1.19			**-**

$\alpha = .01$ and ***$\alpha = .05$

Table 4.194 shows the significant mean differences on the impact of the professional input dimension of B.Ed. programme between the state of Punjab ($M_{PB} = 6.39$) vs Himachal Pradesh ($M_{HP} = 5.38$) favouring Punjab,as the value of t $_{(862)} = 10.41$ is significant at $\alpha = .01$; the state of Haryana ($M_{HR} = 6.38$) vs Himachal Pradesh ($M_{HP} = 5.38$) favouring Haryana,as the value of t $_{(793)} = 9.86$ is significant at $\alpha = .01$; and non-significant mean difference on the impact of professional input dimension of B.Ed. programme exist between the state of Punjab ($M_{PB} = 6.39$) vs Haryana ($M_{HR} = 6.38$), as the value of t $_{(1211)}$ = .16 is not significant at $\alpha = .05$.Thus, H_o stands not accepted for the pupil teachers of the state of Punjab vs Himachal Pradesh and Haryana vs Himachal whereas H_o stands accepted for the pupil teachers of the state of Punjab vs Haryana.

Hence, the IBP is significantly more in Punjab and Haryana states than that of Himachal Pradesh whereas both Punjab and Haryana do not have a significant difference on the impact of professional input dimension of B.Ed. programme on pupil teachers.

Main Effect of Type of Institution on the Impact of Professional Input Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of type of institution on the impact of professional input (PI) dimension of B.Ed. programme on pupil teachers of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{PI - TOI (2, 1427)} = 29.60$ is significant at $\alpha = .01$ (table 4.175). Thus, H_o stands not accepted for the effect of type of institution on the impact of professional input dimension of B.Ed. programme on pupil teachers.

Hence, the government, grant-in-aid, and self-financed colleges of education have a statistically significant impact of the professional input dimension of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of professional input dimension of B.Ed. programme on pupil teachers with respect to the type of institution.

Table 4.195

Means Matrix Showing Significance of Difference in Means regarding the Impact of Professional Input Dimension of B.Ed. Programme on Pupil Teachers with respect to Type of Institution

Type of Institution ⟶			Government	Grant-in Aid	Self-Financed
	N	**Mean ⟶** **SD ↓**	6.04 1.13	6.50 1.03	6.20 1.30
Government	459	6.04 1.13	-	**6.22****	**2.12***
Grant-in Aid	394	6.50 1.03		-	**4.01****
Self-Financed	583	6.20 1.30			-

$^{**}\alpha = .01$ and $^{*}\alpha = .05$

Table 4.195 shows the significant mean differences on the impact of the professional input dimension of B.Ed. programme between the grant-in-aid ($M_{GIACE} = 6.50$) vs government

(M_{GCE} = 6.04) colleges of education favouring the grant-in-aid colleges of education, as the value of t $_{(851)}$ = 6.22 is significant at α = .01; the self-financed (M_{SFCE} = 6.20) vs government (M_{GCE} = 6.04) colleges of education favouring the self-financed colleges of education, as the value of t $_{(1040)}$ = 2.12 is significant at α = .05; and the grant-in-aid (M_{GIACE} = 6.50) vs self-financed (M_{SFCE} = 6.20) colleges of education favouring the grant-in-aid colleges of education, as the value of t $_{(975)}$ = 4.01 is significant at α = .01.Thus, H_o stands not accepted for the pupil teachers in government colleges of education vs grant-in-aid colleges of education; the government colleges of education vs self-financed colleges of education; and the grant-in-aid colleges of education vs self-financed colleges of education comparisons.

Hence, both the grant-in-aid colleges of education and self-financed colleges of education have significantly more effect than government colleges of education on the impact of professional input dimension of B.Ed. programme on pupil teachers; and the grant-in-aid colleges of education have significantly more effect than the self-financed colleges of education on the impact of professional input dimension of B.Ed. programme on pupil teachers.

Interaction Effect of State and Type of Institution on the Impact of Professional Input Dimension of B.Ed. programme on Pupil Teachers

In table 4.175, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of professional input (PI) dimension of B.Ed. programme on pupil teachers is found to be significant, as the value of $F_{PI - State \times TOI (4, 1427)}$ = 16.39 is significant at α = .01. Thus, H_o stands not accepted for the interaction effect of the state and type of institution on the impact of professional input dimension of Input factor of B.Ed. programme on pupil teachers.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of professional input dimension of B.Ed. programme on pupil teachers varies due to any one of these (i.e. state and type of institution) independent

variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.196 below:

Table 4.196

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Professional Input Dimension of B.Ed. Programme on Pupil Teachers

Type of Institution ↓ State →	Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 194$ $M_1 = 6.23$	$N_2 = 91$ $M_2 = 5.37$	$N_3 = 174$ $M_3 = 6.18$
Grant-in Aid	$N_4 = 182$ $M_4 = 6.36$	$N_5 = 50$ $M_5 = 6.38$	$N_6 = 162$ $M_6 = 6.69$
Self-Financed	$N_7 = 265$ $M_7 = 6.53$	$N_8 = 82$ $M_8 = 4.78$	$N_9 = 236$ $M_9 = 6.31$

N = Number of Pupil Teachers and M = Mean Scores

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of professional input dimension of B.Ed. programme on pupil teachers.

Table 4.197

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Professional Input Dimensionof B.Ed. Programme on Pupil Teachers

Type of Institution – Government Colleges of Education (GCE)				
State →		Punjab	Himachal Pradesh	Haryana
↓	↓Mean →	6.23	5.37	6.18
Punjab	6.23	-	.86[**]	.05
Himachal Pradesh	5.37		-	.81[**]
Haryana	6.18			-
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State →		Punjab	Himachal Pradesh	Haryana
↓	↓Mean →	6.36	6.38	6.69
Punjab	6.36	-	.02	.33
Himachal Pradesh	6.38		-	.31
Haryana	6.69			-

Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓Mean↗		6.53	4.78	6.31
Punjab	6.53	-	**1.75**[**]	.22
Himachal Pradesh	4.78		-	**1.53**[**]
Haryana	6.31			-

State - Punjab (PB)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓Mean↗		6.23	6.36	6.53
Government	6.23	-	.13	.30
Grant-in Aid	6.36		-	.17
Self-Financed	6.53			-

State - Himachal Pradesh (HP)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓Mean↗		5.37	6.38	4.78
Government	5.37	-	**1.01**[**]	**.59**[**]
Grant-in Aid	6.38		-	**1.60**[**]
Self-Financed	4.78			-

State – Haryana (HR)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓Mean↗		6.18	6.69	6.31
Government	6.18	-	**.51**[**]	.13
Grant-in Aid	6.69		-	.38
Self-Financed	6.31			-

$q_{k\,at\,.05}$ = 4.17 & HSD or $Q_{critical\,at\,.05}$ = .42; $q_{k\,at\,.01}$ = 4.88 & HSD or $Q_{critical\,at\,.01}$ = .49; [**]α = .01 and [*]α = .05

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.197.

For significant interaction of State x Type of Institution, Tukey's HSD test shows that -

➢ For impact of B.Ed. programme on pupil teachers w. r. t. state (table 4.197 and figure 4.111-A) (i) at GCE comparisons of means - PB > HP (M $_{PB – HP}$ = .86[**]) and HR > HP (M $_{HR – HP}$ = .81[**]) are significant at α = .01 whereas PB > HR (M $_{PB – HR}$ = .05 ns) is not significant at α = .05; (ii) at GIACE comparisons of means - HR > PB (M $_{HR –PB}$ = .33 ns) ; HP > PB (M $_{HP – PB}$ = .02 ns) ; and HR > HP (M $_{HR – HP}$ = .31 ns) are non significant at α = .05; and (iii) at SFCE comparisons of means

- PB > HP (M $_{PB - HP}$ = 1.75**) and HR > HP (M $_{HR - HP}$ = 1.53**) are significant at α = .01 whereas PB > HR (M $_{PB - HR}$ = .22 ns) is not significant at α = .05.

Thus, the significant effect of the state depends on the type of institution.
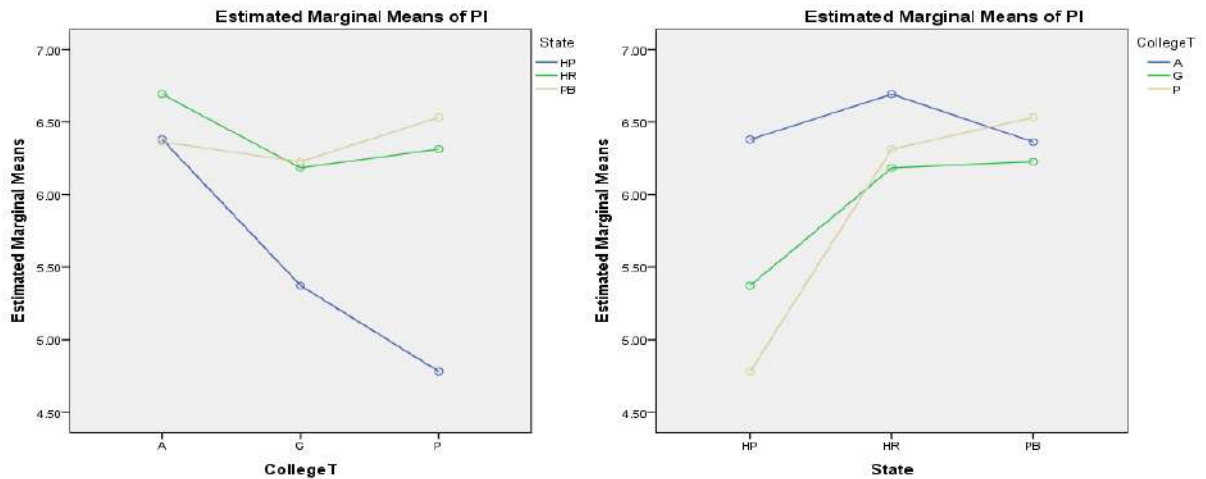
4.111-A (College =Constant)   4.111-B (State=Constant)

Figure 4.111 Interaction Effect of State (4.111-A) and Type of Institution (4.111-B) on the Impact of Professional Input Dimensionof B.Ed. Programme on Pupil Teachers

➢ For impact of B.Ed. programme on pupil teachers w. r. t. type of institution (table 4.197 and figure 4.111-B) (i) at PB comparisons SFCE > GIACE (M $_{SFCE - GIACE}$ = .17 ns); and SFCE > GCE (M $_{SFCE - GCE}$ = .30 ns); and GIACE > GCE (M $_{GIACE - GCE}$ = .13 ns) are non significant at α = .05 (ii) at HP comparisons of means - GIACE > SFCE (M $_{GIACE - SFCE}$ = 1.60**); GIACE > GCE (M $_{GIACE - GCE}$ = 1.01**); and GCE > SFCE (M $_{GCE - SFCE}$ = .59**) are significant at α = .01; and (iii) at HR comparisons of means - GIACE > GCE (M $_{GIACE - GCE}$ = .51**) is significant at α = .01 whereas GIACE > SFCE (M $_{GIACE - SFCE}$ = .38 ns) and SFCE > GCE (M $_{SFCE - GCE}$ = .13 ns) are non significant atα = .05.

Thus, the significant effect of the type of institution depends on the state.

Thus, H$_o$ stands not accepted for the interaction effect of state and type of institution on the impact of professional input dimension of B.Ed. programme on pupil teachers.

Hence, state and type of institution independently as well as together have a significant effect on the impact of professional input dimension of B.Ed. programme on pupil teachers.

4.2.1.5.7   Main and Interaction Effect of State and Type of Institution on the Impact of Curriculum Transaction Process Dimension of B. Ed. Programme on Pupil Teachers

Main Effect of State on the Impact of Curriculum Transaction Process Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of state on the impact of curriculum transaction process (CTP) dimension of B.Ed. programme on pupil teachers of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{CTP – State (2, 1427)} = 12.61$ is significant at $\alpha = .01$ (table 4.175). Thus, H_o stands not accepted for the effect of state on the impact of curriculum transaction process dimension of B.Ed. programme on pupil teachers.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have a statistically significant impact of the curriculum transaction process dimension of B.Ed. programme on pupil teachers.

Table 4.198

Means Matrix Showing Significance of Difference in Means regarding the Impact of Curriculum Transaction Process Dimension IBP on Pupil Teachers with respect to State

State			Punjab	Himachal Pradesh	Haryana
	N	Mean SD	22.21 2.84	20.93 3.57	22.46 3.23
Punjab	641	22.21 2.84	-	**4.85**[**]	1.42
Himachal Pradesh	223	20.93 3.57		-	**5.57**[**]
Haryana	572	22.46 3.23			-

[**]$\alpha = .01$ and [*]$\alpha = .05$

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of curriculum transaction process dimension of B.Ed. programme on pupil teachers with respect to the state.

Table 4.198 shows the significant mean differences on the impact of curriculum transaction process dimension of B.Ed. programme between the state of Punjab (M_{PB} = 22.21) vs Himachal Pradesh (M_{HP} = 20.93) favouring Punjab, as the value of t $_{(862)}$ = 4.85 is significant at α = .01; the state of Haryana (M_{HR} = 22.46) vs Himachal Pradesh (M_{HP} = 20.93) favouring Haryana, as the value of t $_{(793)}$ = 5.57 is significant at α = .01; and non-significant mean difference on the impact of curriculum transaction process dimension of B.Ed. programme exist between the state of Punjab (M_{PB} = 22.21) vs Haryana (M_{HR} = 22.46), as the value of t $_{(1211)}$ = 1.42 is not significant at α = .05. Thus, H_o stands not accepted for PTs of the state of Punjab vs Himachal Pradesh and Haryana vs Himachal whereas H_o stands accepted for pupil teachers of the state of Punjab vs Haryana.

Hence, the impact of curriculum transaction process dimension of B.Ed. programme is significantly more in Punjab and Haryana states than that of Himachal Pradesh whereas both Punjab and Haryana do not have significant difference on the impact of curriculum transaction process dimension of B.Ed. programme on pupil teachers.

Main Effect of Type of Institution on the Impact of Curriculum Transaction Process Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of type of institution on the impact of curriculum transaction process (CTP) dimension of B.Ed. programme on pupil teachers of the government, grant-in-aid, and self-financed colleges of education, as the value of F $_{CTP - TOI (2, 1427)}$ = 25.31 is significant at α = .01 (table 4.175). Thus, H_o stands not accepted for the effect of type of institution on the impact of curriculum transaction process dimension of B.Ed. programme on pupil teachers.

Hence, the government, grant-in-aid, and self-financed colleges of education have a statistically significant impact of the curriculum transaction process dimension of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of curriculum transaction process dimension of B.Ed. programme on pupil teachers with respect to the type of institution.

Table 4.199

Means Matrix Showing Significance of Difference in Means regarding the Impact of Curriculum Transaction Process Dimension of B.Ed. Programme on Pupil Teachers with respect to Type of Institution

Type of Institution ➝			Government	Grant-in Aid	Self-Financed
⬇	**N**	**Mean ➝** **SD ⬇**	21.56 3.11	22.73 2.99	22.13 3.23
Government	459	21.56 3.11	-	**5.69****	**2.89****
Grant-in Aid	394	22.73 2.99		-	**2.98****
Self-Financed	583	22.13 3.23			-

**$\alpha = .01$ *and* *$\alpha = .05$

The table 4.199 shows the significant mean differences on the impact of curriculum transaction process dimension of B.Ed. programme between the grant-in-aid ($M_{GIACE} = 22.73$) vs government ($M_{GCE} = 21.56$) colleges of education favouring the grant-in-aid colleges of education, as the value of t $_{(851)} = 5.69$ is significant at $\alpha = .01$; the self-financed ($M_{SFCE} = 22.13$) vs government ($M_{GCE} = 21.56$) colleges of education favouring the self-financed colleges of education, as the value of t $_{(1040)} = 2.89$ is significant at $\alpha = .01$; and the grant-in-aid ($M_{GIACE} = 22.73$) vs self-financed ($M_{SFCE} = 22.13$) colleges of education favouring the grant-in-aid colleges of education, as the value of t $_{(975)} = 2.98$ is significant at $\alpha = .01$.

Thus, H_o stands not accepted for pupil teachers in the government colleges of education vs grant-in-aid colleges of education; the government colleges of education vs self-financed colleges of education; and the grant-in-aid colleges of education vs self-financed colleges of education comparisons.

Hence, both the grant-in-aid colleges of education and self-financed colleges of education have significantly more effect than government colleges of education on the impact of curriculum transaction process dimension of B.Ed. programme on pupil teachers; and the grant-in-aid colleges of education have significantly more effect than the self-financed colleges of education on the impact of curriculum transaction process dimension of B.Ed. programme on pupil teachers.

Interaction Effect of State and Type of Institution on the Impact of Curriculum Transaction Process Dimension of B.Ed. Programme on Pupil Teachers

In table 4.175, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of curriculum transaction process (CTP) dimension of B.Ed. programme on pupil teachers is found to be significant, as the values of $F_{CTP - State \times TOI(4, 1427)} = 16.74$ is significant at $\alpha = .01$. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of curriculum transaction process dimension of Process factor of B.Ed. programme on pupil teachers.

Table 4.200
Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Curriculum Transaction Process Dimension of B.Ed. Programme on Pupil Teachers

Type of Institution ↓ State	Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 194$ $M_1 = 21.98$	$N_2 = 91$ $M_2 = 20.21$	$N_3 = 174$ $M_3 = 21.80$
Grant-in Aid	$N_4 = 182$ $M_4 = 21.73$	$N_5 = 50$ $M_5 = 23.50$	$N_6 = 162$ $M_6 = 23.61$
Self-Financed	$N_7 = 265$ $M_7 = 22.71$	$N_8 = 82$ $M_8 = 20.16$	$N_9 = 236$ $M_9 = 22.16$

N = Number of Pupil Teachers and M = Mean Scores

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of curriculum transaction process dimension of B.Ed. programme on pupil teachers varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.200.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of curriculum transaction process dimension of B.Ed. programme on pupil teachers.

Table 4.201

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Curriculum Transaction Process Dimension of B.Ed. Programme on Pupil Teachers

Type of Institution – Government Colleges of Education (GCE)				
State		**Punjab**	**Himachal Pradesh**	**Haryana**
	↓Mean→	21.98	20.21	21.80
Punjab	21.98	-	**1.77****	.18
Himachal Pradesh	20.21		-	**1.59****
Haryana	21.80			**-**
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State		**Punjab**	**Himachal Pradesh**	**Haryana**
	↓Mean→	21.73	23.50	23.61
Punjab	21.73	-	**1.77****	**1.88****
Himachal Pradesh	23.50		-	.11
Haryana	23.61			**-**
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State		**Punjab**	**Himachal Pradesh**	**Haryana**
	↓Mean→	22.71	20.16	22.16
Punjab	22.71	-	**2.55****	.55
Himachal Pradesh	20.16		-	**2.00****
Haryana	22.16			**-**

State - Punjab (PB)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean⟶	21.98	21.73	22.71
Government	21.98	-	.25	.73
Grant-in Aid	21.73		-	.98
Self-Financed	22.71			**-**
State - Himachal Pradesh (HP)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean⟶	20.21	23.50	20.16
Government	20.21	-	**3.29****	.05
Grant-in Aid	23.50		-	**3.34****
Self-Financed	20.16			-
State – Haryana (HR)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean⟶	21.80	23.61	22.16
Government	21.80	-	**1.81****	.36
Grant-in Aid	23.61		-	**1.45****
Self-Financed	22.16			-

$q_{k\ at\ .05} = 4.17$ & HSD or $Q_{critical\ at\ .05} = 1.15$; $q_{k\ at\ .01} = 4.88$ & HSD or $Q_{critical\ at\ .01} = 1.34$; $^{**}\alpha = .01$ and $^{*}\alpha = .05$

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.201.

For significant interaction of State x Type of Institution, Tukey's HSD test shows that -

➢ For impact of B.Ed. programme on pupil teachers w. r. t. state (table 4.201 and figure 4.112-A) (i) at GCE comparisons of means - PB > HP (M $_{PB – HP}$ = 1.77**) and HR > HP (M $_{HR – HP}$ = 1.59**) are significant at α = .01 whereas PB > HR (M $_{PB – HR}$ = .18 ns) is not significant at α = .05; (ii) at GIACE comparisons of means - HR > PB (M $_{HR –PB}$ = 1.88**) and HP > PB (M $_{HP – PB}$ = 1.77**) are significant at α = .01 whereas HR > HP (M $_{HR – HP}$ = .11 ns) is not significant at α = .05; and (iii) at SFCE comparisons of means - PB > HP (M $_{PB – HP}$ = 2.55**) and HR > HP (M $_{HR – HP}$ = 2.00**) are significant at α = .01 whereas PB > HR (M $_{PB – HR}$ = .55 ns) is not significant at α = .05.

Thus, the significant effect of the state depends on the type of institution.
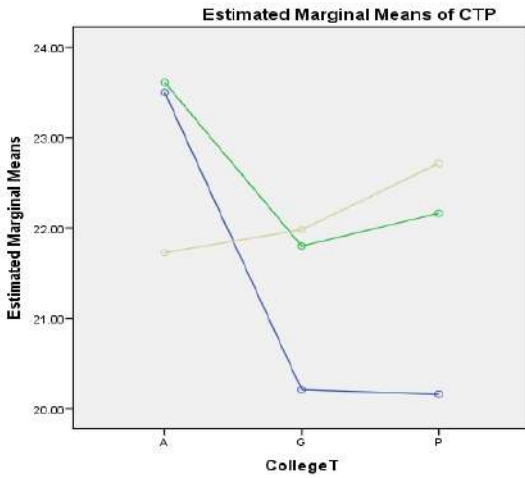
4.112-A (College =Constant)   **4.112-B (State=Constant)**
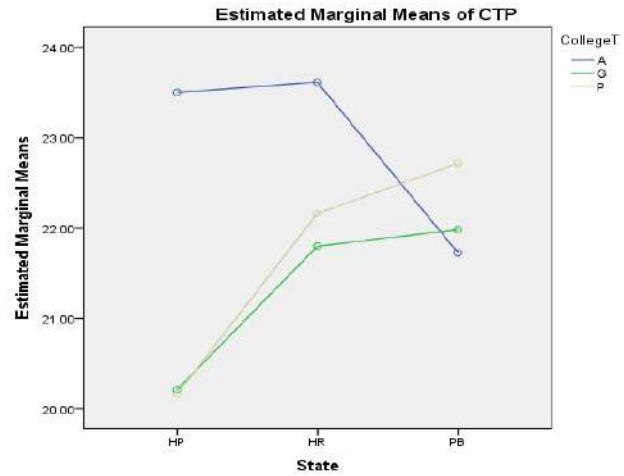
Figure 4.112 Interaction Effect of State (4.112-A) and Type of Institution (4.112-B) on the Impact of Curriculum Transaction Process Dimension of B.Ed. Programme on Pupil Teachers

➢ For impact of B.Ed. programme on pupil teachers w. r. t. type of institution (table 4.201 and figure 4.112-B) (i) at PB comparisons SFCE > GIACE ($M_{SFCE-GIACE}$ = .98 ns); and SFCE > GCE ($M_{SFCE-GCE}$ = .73 ns); and GCE > GIACE ($M_{GCE-GIACE}$ = .25 ns) are non significant at α = .05 (ii) at HP comparisons of means - GIACE > SFCE ($M_{GIACE-SFCE}$ = 3.34**)and GIACE > GCE ($M_{GIACE-GCE}$ = 3.29**)are significant at α = .01 whereas GCE > SFCE ($M_{GCE-SFCE}$ = .05 ns) is not significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE ($M_{GIACE-GCE}$ = 1.81**) and GIACE > SFCE ($M_{GIACE-SFCE}$ = 1.45**) are significant at α = .01 whereas SFCE > GCE ($M_{SFCE-GCE}$ = .36 ns) is not significant atα = .05.

Thus, the significant effect of the type of institution depends on the state.

Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of curriculum transaction process dimension of B.Ed. programme on pupil teachers.

Hence, state and type of institution independently as well as together have a significant effect on the impact of curriculum transaction process dimension of B.Ed. programme on pupil teachers.

4.2.1.5.8   Main and Interaction Effect of State and Type of Institution on the Impact of Professional Process Dimension of B. Ed. Programme on Pupil Teachers

Main Effect of State on the Impact of Professional Process Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of state on the impact of professional process (PP) dimension of B.Ed. programme on pupil teachers of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{PP-State\ (2,\ 1427)} = 22.54$ is significant at $\alpha = .01$ (table 4.175). Thus, H_o stands not accepted for the effect of state on the impact of professional process dimension of B.Ed. programme on pupil teachers.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have a statistically significant impact of the professional process dimension of B.Ed. programme on pupil teachers.

Table 4.202

Means Matrix Showing Significance of Difference in Means regarding the Impact of Professional Process Dimension of B.Ed. Programme on Pupil Teachers with respect to the State

State			Punjab	Himachal Pradesh	Haryana
	N	Mean → SD ↓	12.44 1.82	11.26 2.34	12.50 2.15
Punjab	641	12.44 1.82	-	**6.84****	.52
Himachal Pradesh	223	11.26 2.34		-	**6.86****
Haryana	572	12.50 2.15			-

**$\alpha = .01$ *and* *$\alpha = .05$

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of professional process dimension of B.Ed. programme on pupil teachers with respect to the state.

The table 4.202 shows the significant mean differences on the impact of professional process dimension of B.Ed. programme between the state of Punjab (M_{PB} = 12.44) vs Himachal Pradesh (M_{HP} = 11.26) favouring Punjab, as the value of t $_{(862)}$ = 6.84 is significant at α = .01; the state of Haryana (M_{HR} = 12.50) vs Himachal Pradesh (M_{HP} = 11.26) favouring Haryana, as the value of t $_{(793)}$ = 6.86 is significant at α = .01; andnon-significant mean difference on the impact of professional process dimension of B.Ed. programme exist between the state of Punjab (M_{PB} = 12.44) vs Haryana (M_{HR} = 12.50), as the value of t $_{(1211)}$ = .52 is not significant at α = .05.

Thus, H_o stands not accepted for pupil teachers of the state of Punjab vs Himachal Pradesh and Haryana vs Himachal whereas H_o stands accepted for the pupil teachers of the state of Punjab vs Haryana.

Hence, the impact of the professional process dimension of B.Ed. programme is significantly more in Punjab and Haryana states than that of Himachal Pradesh whereas both Punjab and Haryana do not have significant difference on the impact of professional process dimension of B.Ed. programme on pupil teachers.

Main Effect of Type of Institution on the Impact of Professional Process Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of type of institution on the impact of professional process (PP) dimension of B.Ed. programme on pupil teachers of the government, grant-in-aid, and self-financed colleges of education, as the value of F $_{PP – TOI (2, 1427)}$ = 17.44 is significant at α = .01 (table 4.175). Thus, H_o stands not accepted for the effect of type of institution on the impact of professional process dimension of B.Ed. programme on pupil teachers.

Hence, the government, grant-in-aid, and self-financed colleges of education have a statistically significant impact of the professional process dimension of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of professional process dimension of B.Ed. programme on pupil teachers with respect to the type of institution.

Table 4.203

Means Matrix Showing Significance of Difference in Means regarding the Impact of Professional Process Dimension of B.Ed. Programme on Pupil Teachers with respect to Type of Institution

Type of Institution ⟶			Government	Grant-in Aid	Self-Financed
↓	N	Mean ⟶ SD ↓	11.83 1.97	12.52 1.98	12.47 2.20
Government	459	11.83 1.97	-	**5.09**[**]	**4.94**[**]
Grant-in Aid	394	12.52 1.98		-	.37
Self-Financed	583	12.47 2.20			-

[**]$\alpha = .01$ *and* [*]$\alpha = .05$

Table 4.203 shows the significant mean differences on the impact of the professional process dimension of B.Ed. programme between the grant-in-aid ($M_{GIACE} = 12.52$) vs government ($M_{GCE} = 11.83$) colleges of education favouring the grant-in-aid colleges of education, as the value of t $_{(851)} = 5.09$ is significant at $\alpha = .01$; the self-financed ($M_{SFCE} = 12.47$) vs government ($M_{GCE} = 11.83$) colleges of education favouring the self-financed colleges of education, as the value of t $_{(1040)} = 4.94$ is significant at $\alpha = .01$; and non-significant mean difference on the impact of PP dimension of B.Ed. programme exist between the grant-in-aid ($M_{GIACE} = 12.52$) vs self-financed ($M_{SFCE} = 12.47$) colleges of education, as the value of t $_{(975)} = .37$ is not significant at $\alpha = .05$. Thus, H_o stands not accepted for pupil teachers in the government colleges of education vs grant-in-aid

colleges of education and the government colleges of education vs self-financed colleges of education comparisons whereas H_o stands accepted for pupil teachers in the grant-in-aid colleges of education vs self-financed colleges of education comparison.

Hence, both the grant-in-aid colleges of education and self-financed colleges of education have significantly more effect than government colleges of education on the impact of B.Ed. programme on pupil teachers; and both the grant-in-aid colleges of education and self-financed colleges of education do not have significant difference on the impact of professional process dimension of B.Ed. programme on pupil teachers.

Interaction Effect of State and Type of Institution on the Impact of Professional Process Dimension of B.Ed. Programme on Pupil Teachers

In table 4.175, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of professional process (PP) dimension of B.Ed. programme on pupil teachers is found to be significant, as the value of $F_{PP - State \times TOI (4, 1427)} = 17.26$ is significant at $\alpha = .01$. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of professional process dimension of Process factor of B.Ed. programme on pupil teachers.

Table 4.204

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Professional Process Dimension of B.Ed. Programme on Pupil Teachers

Type of Institution ↓ State →	Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 194$ $M_1 = 12.13$	$N_2 = 91$ $M_2 = 10.96$	$N_3 = 174$ $M_3 = 11.96$
Grant-in Aid	$N_4 = 182$ $M_4 = 11.98$	$N_5 = 50$ $M_5 = 12.68$	$N_6 = 162$ $M_6 = 13.10$
Self-Financed	$N_7 = 265$ $M_7 = 12.99$	$N_8 = 82$ $M_8 = 10.73$	$N_9 = 236$ $M_9 = 12.49$

N = Number of 8 and M = Mean Scores

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of professional process dimension of B.Ed. programme on pupil teachers varies due to any one of these (i.e. state and type of institution) independent

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variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.204.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of professional process dimension of B.Ed. programme on pupil teachers.

Table 4.205

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Professional Process Dimension B.Ed. Programme on Pupil Teachers

Type of Institution – Government Colleges of Education (GCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
⟶	**↓Mean⟶**	12.13	10.96	11.96
Punjab	12.13	-	**1.17****	.17
Himachal Pradesh	10.96		-	**1.00****
Haryana	11.96			**-**
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
⟶	**↓Mean⟶**	11.98	12.68	13.10
Punjab	11.98	-	.70	**1.12****
Himachal Pradesh	12.68		-	.42
Haryana	13.10			**-**
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
⟶	**↓Mean⟶**	12.99	10.73	12.49
Punjab	12.99	-	**2.26****	.50
Himachal Pradesh	10.73		-	**1.76****
Haryana	12.49			**-**
State - Punjab (PB)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
⟶	**↓Mean⟶**	12.13	11.98	12.99
Government	12.13	-	.15	**.86***
Grant-in Aid	11.98		-	**1.01****
Self-Financed	12.99			**-**

State - Himachal Pradesh (HP)				
Type of Institution⟶		Government	Grant-in Aid	Self-Financed
	↓Mean⟶	10.96	12.68	10.73
Government	10.96	-	**1.72****	.23
Grant-in Aid	12.68		-	**1.95****
Self-Financed	10.73			**-**
State – Haryana (HR)				
Type of Institution⟶		Government	Grant-in Aid	Self-Financed
	↓Mean⟶	11.96	13.10	12.49
Government	11.96	-	**1.14****	.53
Grant-in Aid	13.10		-	.61
Self-Financed	12.49			**-**

$q_{k\,at\,.05} = 4.17$ & HSD or $Q_{critical\,at\,.05} = .75$; $q_{k\,at\,.01} = 4.88$ & HSD or $Q_{critical\,at\,.01} = .88$; **$\alpha = .01$ and *$\alpha = .05$

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.205.
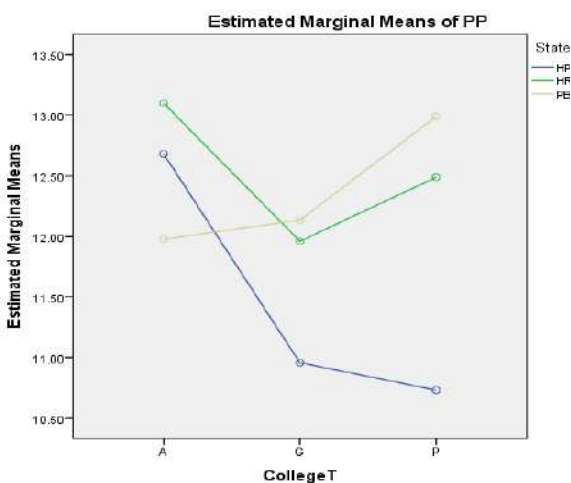
4.113-A (College =Constant)   4.113-B (State=Constant)
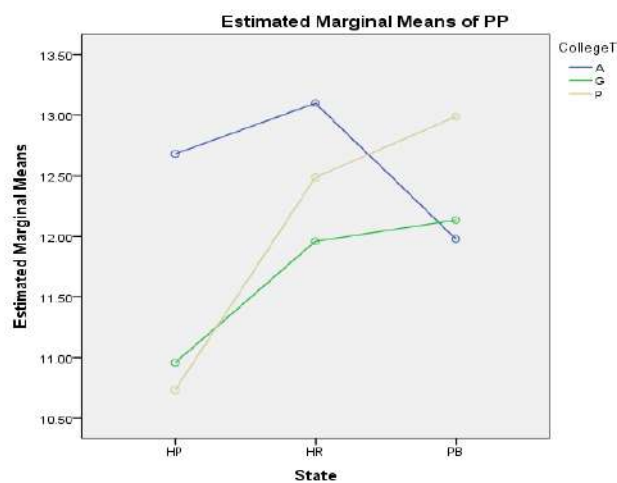
Figure 4.113   Interaction Effect of State (4.113-A) and Type of Institution (4.113-B) on the Impact of Professional Process dimension of B.Ed. Programme on Pupil Teachers

For significant interaction of State x Type of Institution, Tukey's HSD test shows that -

- For impact of B.Ed. programme on pupil teachers w. r. t. state (table 4.205 and figure 4.113-A) (i) at GCE comparisons of means - PB > HP (M $_{PB-HP}$ = 1.17**) and HR > HP (M $_{HR-HP}$ = 1.00**) are significant at α = .01 whereas PB > HR (M $_{PB-HR}$ = .17 ns) is not significant at α = .05; (ii) at GIACE comparisons of means - HR > PB (M $_{HR-PB}$ = 1.12**) is significant at α = .01; whereas HR > HP (M $_{HR-HP}$ = .42 ns) and HP > PB (M $_{HP-PB}$ = .70 ns) are non significant at α = .05 and (iii) at SFCE comparisons of means - PB > HP (M $_{PB-HP}$ = 2.26**) and HR > HP (M $_{HR-HP}$ = 1.76**) are significant at α = .01 whereas PB > HR (M $_{PB-HR}$ = .50 ns) is not significant at α = .05.

Thus, the significant effect of the state depends on the type of institution.

- For impact of B.Ed. programme on pupil teachers w. r. t. type of institution (table 4.205 and figure 4.113-B) (i) at PB comparisons SFCE > GIACE (M $_{SFCE-GIACE}$ = 1.01**) and SFCE > GCE (M $_{SFCE-GCE}$ = .86*)are significant at α = .01 and α = .05 respectively whereas GCE > GIACE (M $_{GCE-GIACE}$ = .15 ns) is not significant at α = .05 (ii) at HP comparisons of means - GIACE > SFCE (M $_{GIACE-SFCE}$ = 1.95**)and GIACE > GCE (M $_{GIACE-GCE}$ = 1.72**)are significant at α = .01 whereas GCE > SFCE (M $_{GCE-SFCE}$ = .23 ns) is not significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE (M $_{GIACE-GCE}$ = 1.14**) is significant at α = .01 whereas GIACE > SFCE (M $_{GIACE-SFCE}$ = .61 ns) and SFCE > GCE (M $_{SFCE-GCE}$ = .53 ns) are non significant at α = .05.

Thus, the significant effect of the type of institution depends on the state.

Thus, H$_o$ stands not accepted for the interaction effect of state and type of institution on the impact of professional process dimension of B.Ed. programme on pupil teachers.

Hence, state and type of institution independently as well as together have a significant effect on the impact of professional process dimension of B.Ed. programme on pupil teachers.

4.2.1.5.9   Main and Interaction Effect of State and Type of Institution on the Impact of Training Process Dimension of B. Ed. Programme on Pupil Teachers

Main Effect of State on the Impact of Training Process Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of state on the impact of training process (TP) dimension of B.Ed. programme on pupil teachers of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{TP – State (2, 1427)} = 27.31$ is significant at $\alpha = .01$ (table 4.175). Thus, H_o stands not accepted for the effect of state on the impact of training process dimension of B.Ed. programme on pupil teachers.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have a statistically significant impact of the training process dimension of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of training process dimension of B.Ed. programme on pupil teachers with respect to the state.

Table 4.206

Means Matrix Showing Significance of Difference in Means regarding the Impact of Training Process Dimension of B.Ed. Programme on Pupil Teachers with respect to State

State			Punjab	Himachal Pradesh	Haryana
	N	**Mean** **SD**	9.16 1.42	8.10 1.79	9.09 1.69
Punjab	641	9.16 1.42	-	**8.01**[**]	.78
Himachal Pradesh	223	8.10 1.79		**-**	**7.11**[**]
Haryana	572	9.09 1.69			**-**

[**]$\alpha = .01$ *and* [*]$\alpha = .05$

Table 4.206 shows the significant mean differences on the impact of the training process dimension of B.Ed. programme between the state of Punjab (M_{PB} = 9.16) vs Himachal Pradesh (M_{HP} = 8.10) favouring Punjab, as the value of t $_{(862)}$ = 8.01 is significant at α = .01; the state of Haryana (M_{HR} = 9.09) vs Himachal Pradesh (M_{HP} = 8.10) favouring Haryana, as the value of t $_{(793)}$ = 7.11 is significant at α = .01; and non-significant mean difference on the impact of training process dimension of B.Ed. programme exist between the state of Punjab (M_{PB} = 9.16) vs Haryana (M_{HR} = 9.09), as the value of t $_{(1211)}$ = .78 is not significant at α = .05.

Thus, H_o stands not accepted for the pupil teachers of the state of Punjab vs Himachal Pradesh and Haryana vs Himachal whereas H_o stands accepted for the pupil teachers of the state of Punjab vs Haryana.

Hence, the impact of the training process dimension of B.Ed. programme is significantly more in Punjab and Haryana states than that of Himachal Pradesh whereas both Punjab and Haryana do not have a significant difference on the impact of training process dimension of B.Ed. programme on pupil teachers.

Main Effect of Type of Institution on the Impact of Training Process Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of type of institution on the impact of training process (TP) dimension of B.Ed. programme on pupil teachers of the government, grant-in-aid, and self-financed colleges of education, as the value of F $_{TP-TOI\ (2,\ 1427)}$ = 27.33 is significant at α = .01 (table 4.175). Thus, H_o stands not accepted for the effect of type of institution on the impact of training process dimension of B.Ed. programme on pupil teachers.

Hence, the government, grant-in-aid, and self-financed colleges of education have a statistically significant impact of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H$_0$: There is no significant difference in the impact of training process dimension of B.Ed. programme on pupil teachers with respect to the type of institution.

Table 4.207

Means Matrix Showing Significance of Difference in Means regarding the Impact of Training Process Dimension of B.Ed. Programme on the Pupil Teachers with respect to Type of Institution

Type of Institution ⟶			Government	Grant-in Aid	Self-Financed
	N	**Mean** ⟶ **SD** ↓	8.49 1.66	9.23 1.48	9.18 1.64
Government	459	8.49 1.66	-	**6.88**[**]	**6.70**[**]
Grant-in Aid	394	9.23 1.48		-	.50
Self-Financed	583	9.18 1.64			-

[**]$\alpha = .01$ and [*]$\alpha = .05$

Table 4.207 shows the significant mean differences on the impact of the training process dimension of B.Ed. programme between the grant-in-aid (M$_{GIACE}$ = 9.23) vs government (M$_{GCE}$ = 8.49) colleges of education favouring the grant-in-aid colleges of education, as the value of t $_{(851)}$ = 6.88 is significant at α = .01; the self-financed (M$_{SFCE}$ = 9.18) vs government (M$_{GCE}$ = 8.49) colleges of education favouring the self-financed colleges of education, as the value of t $_{(1040)}$ = 6.70 is significant at α = .01; and non-significant mean difference on the impact of training process dimension of B.Ed. programme exist between the grant-in-aid (M$_{GIACE}$ = 9.23) vs self-financed (M$_{SFCE}$ = 9.18) colleges of education, as the value of t $_{(975)}$ = .50 is not significant at α = .05. Thus, H$_0$ stands not accepted for pupil teachers in the government colleges of education vs grant-in-aid colleges of education and the government colleges of education vs self-financed colleges of education comparisons whereas H$_0$ stands accepted for pupil teachers in the grant-in-aid colleges of education vs self-financed colleges of education comparison.

Hence, both the grant-in-aid colleges of education and self-financed colleges of education have significantly more effect than government colleges of education on the impact of B.Ed. programme on pupil teachers whereas both the grant-in-aid colleges of education

and self-financed colleges of education do not have significant difference on the impact of training process dimension of B.Ed. programme on pupil teachers.

Interaction Effect of State and Type of Institution on the Impact of Training Process Dimension of B.Ed. programme on Pupil Teachers

In table 4.175, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of training process (TP) dimension of B.Ed. programme on pupil teachers is found to be significant, as the values of $F_{TP \text{ - State x TOI } (4, 1427)} = 13.37$ is significant at $\alpha = .01$. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of training process dimension of Process factor of B.Ed. programme on pupil teachers.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of training process dimension of B.Ed. programme on pupil teachers varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.208 below:

Table 4.208

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Training Process Dimension of B.Ed. Programme on Pupil Teachers

Type of Institution ↓ State →	Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 194$ $M_1 = 8.83$	$N_2 = 91$ $M_2 = 7.77$	$N_3 = 174$ $M_3 = 8.49$
Grant-in Aid	$N_4 = 182$ $M_4 = 8.91$	$N_5 = 50$ $M_5 = 9.12$	$N_6 = 162$ $M_6 = 9.62$
Self-Financed	$N_7 = 265$ $M_7 = 9.59$	$N_8 = 82$ $M_8 = 7.85$	$N_9 = 236$ $M_9 = 9.17$

N = Number of Pupil Teachers and M = Mean Scores

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

Table 4.209
Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Training Process Dimension of B.Ed. Programme on Pupil Teachers

Type of Institution – Government Colleges of Education (GCE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean➤	8.83	7.77	8.49
Punjab	8.83	-	1.06**	.34
Himachal Pradesh	7.77		-	.72**
Haryana	8.49			-
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean➤	8.91	9.12	9.62
Punjab	8.91	-	.21	.71**
Himachal Pradesh	9.12		-	.50
Haryana	9.62			-
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean➤	9.59	7.85	9.17
Punjab	9.59	-	1.74**	.42
Himachal Pradesh	7.85		-	1.32**
Haryana	9.17			-
State - Punjab (PB)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean➤	8.83	8.91	9.59
Government	8.83	-	.08	.76**
Grant-in Aid	8.91		-	.68**
Self-Financed	9.59			-
State - Himachal Pradesh (HP)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean➤	7.77	9.12	7.85
Government	7.77	-	1.35**	.08
Grant-in Aid	9.12		-	1.27**
Self-Financed	7.85			-
State – Haryana (HR)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean➤	8.49	9.62	9.17
Government	8.49	-	1.13**	.68**
Grant-in Aid	9.62		-	.45
Self-Financed	9.17			-

$q_{k\ at\ .05}$ = 4.17 & HSD or Q $_{critical\ at\ .05}$ = .58; $q_{k\ at\ .01}$ = 4.88 & HSD or Q $_{critical\ at\ .01}$ = .68; **α = .01 and *α = .05

H$_o$:   There is no significant interaction effect of state and type of institution on the impact of training process dimension of B.Ed. programme on pupil teachers.

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.209.
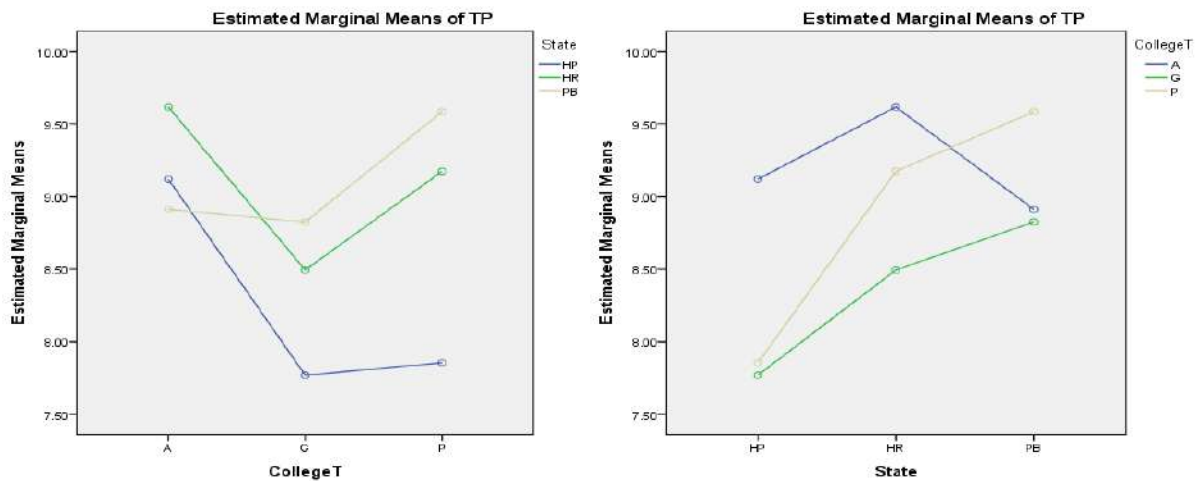
4.114-A (College =Constant)   **4.114-B (State=Constant)**

Figure 4.114   Interaction Effect of State (4.114-A) and Type of Institution (4.114-B) on the Impact of Training Process Dimension of B.Ed. Programme on Pupil Teachers

For significant interaction of State x Type of Institution, Tukey's HSD test shows that -

➤ For impact of B.Ed. programme on pupil teachers w. r. t. state (table 4.209 and figure 4.114-A) (i) at GCE comparisons of means - PB > HP (M $_{PB – HP}$ = 1.06**) and HR > HP (M $_{HR – HP}$ = .72**) are significant at α = .01 whereas PB > HR (M $_{PB – HR}$ = .34 ns) is not significant at α = .05; (ii) at GIACE comparisons of means - HR > PB (M $_{HR –PB}$ = .71**) is significant at α = .01; whereas HR > HP (M $_{HR – HP}$ = .50 ns) and HP > PB (M $_{HP – PB}$ = .21 ns) are non significant at α = .05 and (iii) at SFCE comparisons of means - PB > HP (M $_{PB – HP}$ = 1.74**) and HR > HP (M $_{HR –}$

HP $= 1.32^{**}$) are significant at $\alpha = .01$ whereas PB > HR (M $_{PB - HR} = .42$ ns) is not significant at $\alpha = .05$.

Thus, the significant effect of the state depends on the type of institution.

➤ For impact of B.Ed. programme on pupil teachers w. r. t. type of institution (table 4.209 and figure 4.114-B) (i) at PB comparisons SFCE > GIACE (M $_{SFCE - GIACE} = .68^{**}$) andSFCE > GCE (M $_{SFCE - GCE} = .76^{**}$)are significant at $\alpha = .01$ whereas GIACE > GCE (M $_{GIACE - GCE} = .08$ ns) is not significant at $\alpha = .05$ (ii) at HP comparisons of means - GIACE > SFCE (M $_{GIACE - SFCE} = 1.27^{**}$)and GIACE > GCE (M $_{GIACE - GCE} = 1.35^{**}$)are significant at $\alpha = .01$ whereas SFCE > GCE (M $_{SFCE - GCE} = .08$ ns) is not significant at $\alpha = .05$; and (iii) at HR comparisons of means - GIACE > GCE (M $_{GIACE - GCE} = 1.13^{**}$) and SFCE > GCE (M $_{SFCE - GCE} = .68^{**}$) are significant at $\alpha = .01$ whereas GIACE > SFCE (M $_{GIACE - SFCE} = .45$ ns) is not significant at$\alpha = .05$.

Thus, the significant effect of the type of institution depends on the state.

Thus, H$_o$ stands not accepted for the interaction effect of state and type of institution on the impact of training process dimension of B.Ed. programme on pupil teachers.

Hence, state and type of institution independently as well as together have a significant effect on the impact of training process dimension of B.Ed. programme on pupil teachers.

4.2.1.5.10   Main and Interaction Effect of State and Type of Institution on the Impact of Academic Process Dimension of B. Ed. Programme on Pupil Teachers

Main Effect of State on the Impact of Academic Process Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of state on the impact of academic process (AP) dimension of B.Ed. programme on pupil teachers of the states of Punjab, Himachal Pradesh, and Haryana, as the value of F $_{AP - State (2, 1427)} = 40.74$ is significant at $\alpha = .01$ (table 4.175). Thus, H$_o$ stands not accepted for the effect of state on the impact of academic process dimension of B.Ed. programme on pupil teachers.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have a statistically significant impact of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of academic process dimension of B.Ed. programme on pupil teachers with respect to the state.

Table 4.210

Means Matrix Showing Significance of Difference in Means regarding the Impact of Academic Process dimension of B.Ed. Programme on Pupil Teachers with respect to the State

State			Punjab	Himachal Pradesh	Haryana
	N	Mean SD	6.23 1.00	5.31 1.30	6.11 1.25
Punjab	641	6.23 1.00	-	9.62**	1.83
Himachal Pradesh	223	5.31 1.30		-	7.88**
Haryana	572	6.11 1.25			-

$^{**}\alpha = .01 \; and \; ^{*}\alpha = .05$

Table 4.210 shows the significant mean differences on the impact of the academic process dimension of B.Ed. programme between the state of Punjab ($M_{PB} = 6.23$) vs Himachal Pradesh ($M_{HP} = 5.31$) favouring Punjab,as the value of t $_{(862)} = 9.62$ is significant at $\alpha = .01$; the state of Haryana ($M_{HR} = 6.11$) vs Himachal Pradesh ($M_{HP} = 5.31$) favouring Haryana,as the value of t $_{(793)} = 7.88$ is significant at $\alpha = .01$; and non-significant mean differences on the impact of academic process dimension of B.Ed. programme exist between the state of Punjab ($M_{PB} = 6.23$) vs Haryana ($M_{HR} = 6.11$), as the value of t $_{(1211)} = 1.83$ is not significant at $\alpha = .05$. Thus, H_o stands not accepted for the pupil teachers of the state of Punjab vs Himachal Pradesh and Haryana vs Himachal whereas H_o stands accepted for the pupil teachers of the state of Punjab vs Haryana.

Hence, the impact of the academic process dimension of B.Ed. programme is significantly more in Punjab and Haryana states than that of Himachal Pradesh whereas both Punjab and Haryana do not have significant difference on the impact of academic process dimension of B.Ed. programme on pupil teachers.

Main Effect of Type of Institution on the Impact of Academic Process Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of type of institution on the impact of academic process (AP) dimension of B.Ed. programme on pupil teachers of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{AP - TOI (2, 1427)} = 17.90$ is significant at $\alpha = .01$ (table 4.175). Thus, H_o stands not accepted for the effect of type of institution on the impact of academic process dimension of B.Ed. programme on pupil teachers.

Hence, the government, grant-in-aid, and self-financed colleges of education have a statistically significant impact of the academic process dimension of B.Ed. programme on pupil teachers.

Table 4.211

Means Matrix Showing Significance of Difference in Means regarding the Impact of Academic Process Dimension of B.Ed. Programme on Pupil Teachers with respect to Type of Institution

Type of Institution ⟶			Government	Grant-in Aid	Self-Financed
↓	N	Mean ⟶ SD ↓	5.87 1.13	6.26 1.06	6.03 1.31
Government	459	5.87 1.13	-	**5.20**[**]	**2.12**[*]
Grant-in Aid	394	6.26 1.06		-	**3.02**[**]
Self-Financed	583	6.03 1.31			-

[**] $\alpha = .01$ *and* [*] $\alpha = .05$

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H$_o$:   There is no significant difference in the impact of academic process dimension of B.Ed. programme on pupil teachers with respect to the type of institution.

Table 4.211 shows the significant mean differences on the impact of the academic process dimension of B.Ed. programme between the grant-in-aid ($M_{GIACE} = 6.26$) vs government ($M_{GCE} = 5.87$) colleges of education favouring the grant-in-aid colleges of education, as the value of t $_{(851)} = 5.20$ is significant at $\alpha = .01$; the self-financed ($M_{SFCE} = 6.03$) vs government ($M_{GCE} = 5.87$) colleges of education favouring the self-financed colleges of education, as the value of t $_{(1040)} = 2.12$ is significant at $\alpha = .05$; and the grant-in-aid ($M_{GIACE} = 6.26$) vs self-financed ($M_{SFCE} = 6.03$) colleges of education favouring the grant-in-aid colleges of education, as the value of t $_{(975)} = 3.02$ is significant at $\alpha = .01$. Thus, H$_o$ stands not accepted for pupil teachers in the government colleges of education vs grant-in-aid colleges of education; the government colleges of education vs self-financed colleges of education; and the grant-in-aid colleges of education vs self-financed colleges of education comparisons.

Hence, both the grant-in-aid colleges of education and self-financed colleges of education have significantly more effect than government colleges of education on the impact of the academic process dimension of B.Ed. programme on pupil teachers; and the grant-in-aid colleges of education have significantly more effect than the self-financed colleges of education on the impact of academic process dimension of B.Ed. programme on pupil teachers.

Interaction Effect of State and Type of Institution on the Impact of Academic Process Dimension of B.Ed. programme on Pupil Teachers

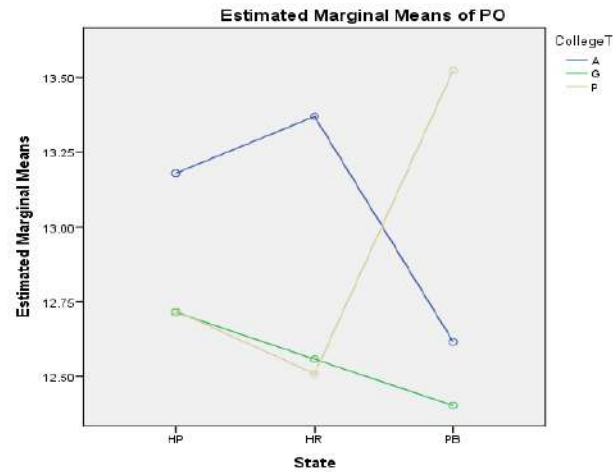In table 4.175, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of academic process (AP) dimension of B.Ed. programme on pupil teachers is found to be significant, as the value of F $_{AP - State \ x \ TOI \ (4, 1427)} = 13.59$ is significant at $\alpha = .01$. Thus, H$_o$ stands not accepted for the interaction effect of the state and type of institution on the impact of academic process dimension of Process factor of B.Ed. programme on pupil teachers.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of academic process dimension of B.Ed. programme on pupil teachers varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.212 below:

Table 4.212

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Academic Process Dimension of B.Ed. Programme on Pupil Teachers

Type of Institution ↓ State →	Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 194$ $M_1 = 6.20$	$N_2 = 91$ $M_2 = 5.29$	$N_3 = 174$ $M_3 = 5.79$
Grant-in Aid	$N_4 = 182$ $M_4 = 6.10$	$N_5 = 50$ $M_5 = 6.08$	$N_6 = 162$ $M_6 = 6.50$
Self-Financed	$N_7 = 265$ $M_7 = 6.34$	$N_8 = 82$ $M_8 = 4.88$	$N_9 = 236$ $M_9 = 6.09$

N = Number of Pupil Teachers and M = Mean Scores

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of academic process dimension of B.Ed. programme on pupil teachers.

Table 4.213

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Academic Process Dimension of B.Ed. Programme on Pupil Teachers

Type of Institution – Government Colleges of Education (GCE)				
State →	↓Mean →	Punjab	Himachal Pradesh	Haryana
		6.20	5.29	5.79
Punjab	6.20	-	**.91**[**]	.41
Himachal Pradesh	5.29		-	**.50**[**]
Haryana	5.79			-

Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
⟶	↓**Mean**⟶	6.10	6.08	6.50
Punjab	6.10	-	.02	.04
Himachal Pradesh	6.08		-	.42
Haryana	6.50			**-**
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
⟶	↓**Mean**⟶	6.34	4.88	6.09
Punjab	6.34	-	**1.46**[**]	.25
Himachal Pradesh	4.88		-	**1.21**[**]
Haryana	6.09			**-**
State - Punjab (PB)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
⟶	↓**Mean**⟶	6.20	6.10	6.34
Government	6.20	-	.10	.14
Grant-in Aid	6.10		-	.24
Self-Financed	6.34			**-**
State - Himachal Pradesh (HP)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
⟶	↓**Mean**⟶	5.29	6.08	4.88
Government	5.29	-	**.79**[**]	.41
Grant-in Aid	6.08		-	**1.20**[**]
Self-Financed	4.88			**-**
State – Haryana (HR)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
⟶	↓**Mean**⟶	5.79	6.50	6.09
Government	5.79	-	**.71**[**]	.30
Grant-in Aid	6.50		-	.41
Self-Financed	6.09			**-**

$q_{k\ at\ .05}$ = 4.17 & HSD or Q $_{critical\ at\ .05}$ = .43; $q_{k\ at\ .01}$ = 4.88 & HSD or Q $_{critical\ at\ .01}$ = .50; [**]α = .01 and [*] α = .05

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.213.

For significant interaction of State x Type of Institution, Tukey's HSD test shows that -

➢ For impact of B.Ed. programme on pupil teachers w. r. t. state (table 4.213 and figure 4.115-A) (i) at GCE comparisons of means - PB > HP (M $_{PB – HP}$ = .91[**])

and HR > HP ($M_{HR-HP} = .50^{**}$) are significant at $\alpha = .01$ whereas PB > HR ($M_{PB-HR} = .41$ ns) is not significant at $\alpha = .05$; (ii) at GIACE comparisons of means - HR > PB ($M_{HR-PB} = .40$ ns); HR > HP ($M_{HR-HP} = .42$ ns); and PB > HP ($M_{PB-HP} = .02$ ns) are non significant at $\alpha = .05$ and (iii) at SFCE comparisons of means - PB > HP ($M_{PB-HP} = 1.46^{**}$) and HR > HP ($M_{HR-HP} = 1.21^{**}$) are significant at $\alpha = .01$ whereas PB > HR ($M_{PB-HR} = .25$ ns) is not significant at $\alpha = .05$.

Thus, the significant effect of the state depends on the type of institution.
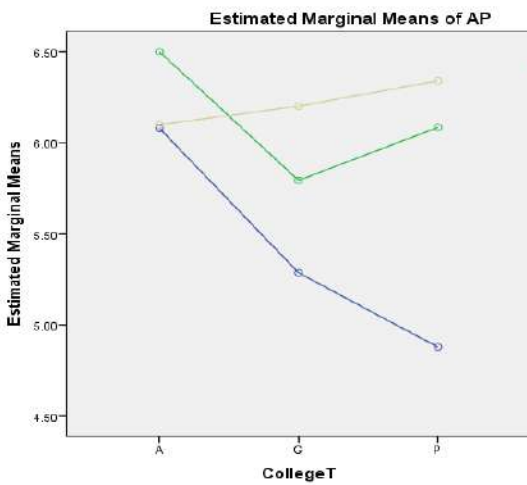
4.115-A (College =Constant)   **4.115-B (State=Constant)**
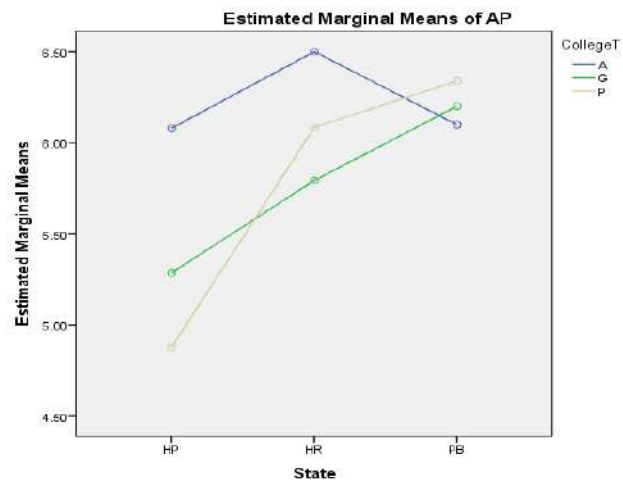
Figure 4.115 Interaction Effect of State (4.115-A) and Type of Institution (4.115-B) on the Impact of Academic Process Dimension of B.Ed. Programme on Pupil Teachers

➤ For impact of B.Ed. programme on pupil teachers w. r. t. type of institution (table 4.213 and figure 4.115-B) (i) at PB comparisons SFCE > GIACE ($M_{SFCE-GIACE} = .24$ ns); SFCE > GCE ($M_{SFCE-GCE} = .14$ ns) and GCE > GIACE ($M_{GCE-GIACE} = .10$ ns) are non significant at $\alpha = .05$ (ii) at HP comparisons of means - GIACE > SFCE ($M_{GIACE-SFCE} = 1.20^{**}$)and GIACE > GCE ($M_{GIACE-GCE} = .79^{**}$) are significant at $\alpha = .01$ whereas GCE > SFCE ($M_{GCE-SFCE} = .41$ ns) is not significant at $\alpha = .05$; and (iii) at HR comparisons of means - GIACE > GCE (M

$_{GIACE - GCE}$ = .71**) is significant at α = .01 whereas SFCE > GCE (M $_{SFCE -GCE}$ = .30 ns) and GIACE > SFCE (M $_{GIACE - SFCE}$ = .41 ns) are not significant at α = .05.

Thus, the significant effect of the type of institution depends on the state.

Thus, H$_o$ stands not accepted for the interaction effect of state and type of institution on the impact of academic process dimension of B.Ed. programme on pupil teachers.

Hence, state and type of institution independently as well as together have a significant effect on the impact of academic process dimension of B.Ed. programme on pupil teachers.

4.2.1.5.11   Main and Interaction Effect of State and Type of Institution on the Impact of Evaluation Process Dimension of B. Ed. Programme on Pupil Teachers

Main Effect of State on the Impact of Evaluation Process Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of state on the impact of evaluation process (EP) dimension of B.Ed. programme on pupil teachers of the states of Punjab, Himachal Pradesh, and Haryana, as the value of F $_{EP - State (2, 1427)}$ = 14.49 is significant at α = .01 (table 4.175). Thus, H$_o$ stands not accepted for the effect of state on the impact of evaluation process dimension of B.Ed. programme on pupil teachers.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have a statistically significant impact of the evaluation process dimension of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H$_o$:   There is no significant difference in the impact of evaluation process dimension of B.Ed. programme on pupil teachers with respect to the state.

Table 4.214

Means Matrix Showing Significance of Difference in Means regarding the Impact of Evaluation Process Dimension of B.Ed. Programme on Pupil Teachers with respect to State

State			Punjab	Himachal Pradesh	Haryana
	N	Mean → SD ↓	9.23 1.35	8.57 1.65	9.29 1.66
Punjab	641	9.23 1.35	-	5.38**	.69
Himachal Pradesh	223	8.57 1.65		-	5.52**
Haryana	572	9.29 1.66			-

$**\alpha = .01$ and $*\alpha = .05$

Table 4.214 shows the significant mean differences on the impact of the evaluation process dimension of B.Ed. programme between the state of Punjab ($M_{PB} = 9.23$) vs Himachal Pradesh ($M_{HP} = 8.57$) favouring Punjab,as the value of t $_{(862)} = 5.38$ is significant at $\alpha = .01$; the state of Haryana ($M_{HR} = 9.29$) vs Himachal Pradesh ($M_{HP} = 8.57$) favouring Haryana,as the value of t $_{(793)} = 5.52$ is significant at $\alpha = .01$; and non-significant mean difference on the impact of evaluation process dimension of B.Ed. programme exist between the state of Punjab ($M_{PB} = 9.23$) vs Haryana ($M_{HR} = 9.29$), as the value of t $_{(1211)} = .69$ is not significant at $\alpha = .05$. Thus, H_o stands not accepted for pupil teachers of the state of Punjab vs Himachal Pradesh and Haryana vs Himachal whereas H_o stands accepted for pupil teachers of the state of Punjab vs Haryana.

Hence, the impact of the evaluation process dimension of B.Ed. programme is significantly more in Punjab and Haryana states than that of Himachal Pradesh whereas both Punjab and Haryana do not have a significant difference on the impact of evaluation process dimension of B.Ed. programme on pupil teachers.

Main Effect of Type of Institution on the Impact of Evaluation Process Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of type of institution on the impact of evaluation process (EP) dimension of B.Ed. programme on PTs of the government, grant-in-aid, and self-

financed colleges of education, as the value of $F_{EP-TOI\,(2,\,1427)} = 11.66$ is significant at $\alpha =$ .01 (table 4.175). Thus, H_o stands not accepted for the effect of type of institution on the impact of evaluation process dimension of B.Ed. programme on pupil teachers.

Hence, the government, grant-in-aid, and self-financed colleges of education have a statistically significant impact of the evaluation process dimension of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of evaluation process dimension of B.Ed. programme on pupil teachers with respect to the type of institution.

Table 4.215

Means Matrix Showing Significance of Difference in Means regarding the Impact of Evaluation Process Dimension of B.Ed. Programme on Pupil Teachers with respect to Type of Institution

Type of Institution ⟶			Government	Grant-in Aid	Self-Financed
↓	N	Mean ⟶ SD ↓	8.92 1.50	9.36 1.44	9.19 1.63
Government	459	8.92 1.50	-	**4.36****	**2.78****
Grant-in Aid	394	9.36 1.44		-	1.72
Self-Financed	583	9.19 1.63			-

$^{**}\alpha = .01\ and\ ^{*}\alpha = .05$

Table 4.215 shows the significant mean differences on the impact of the evaluation process dimension of B.Ed. programme between the grant-in-aid ($M_{GIACE} = 9.36$) vs government ($M_{GCE} = 8.92$) colleges of education favouring the grant-in-aid colleges of education, as the value of t $_{(851)} = 4.36$ is significant at $\alpha = .01$; the self-financed ($M_{SFCE} = 9.19$) vs government ($M_{GCE} = 9.36$) colleges of education favouring the self-financed colleges of education, as the value of t $_{(1040)} = 2.78$ is significant at $\alpha = .01$; and non-significant mean difference on the impact of EP dimension of B.Ed. programme exist between the grant-

in-aid ($M_{GIACE} = 9.36$) vs self-financed ($M_{SFCE} = 9.19$) colleges of education, as the value of t $_{(975)} = 1.72$ is not significant at $\alpha = .05$. Thus, H_o stands not accepted for pupil teachers in the government colleges of education vs grant-in-aid colleges of education and the government colleges of education vs self-financed colleges of education; comparisons whereas H_o stands accepted for pupil teachers in the grant-in-aid colleges of education vs self-financed colleges of education comparison.

Hence, both the grant-in-aid colleges of education and self-financed colleges of education have significantly more effect than government colleges of education on the impact of the evaluation process dimension of B.Ed. programme on pupil teachers whereas the grant-in-aid colleges of education and self-financed colleges of education do not have significant difference on the impact of evaluation process dimension of B.Ed. programme on pupil teachers.

Interaction Effect of State and Type of Institution on the Impact of Evaluation Process Dimension of B.Ed. programme on Pupil Teachers

In table 4.175, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of evaluation process (EP) dimension of B.Ed. programme on pupil teachers is found to be significant, as the values of $F_{\text{EP- State x TOI (4, 1427)}} = 18.32$ is significant at $\alpha = .01$. Thus, H_o stands not accepted for the interaction effect of the state and type of institution on the impact of evaluation process dimension of Process factor of B.Ed. programme on pupil teachers.

Table 4.216

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Evaluation Process Dimension of B.Ed. Programme on Pupil Teachers

Type of Institution ↓ State →	Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 194$ $M_1 = 9.26$	$N_2 = 91$ $M_2 = 8.51$	$N_3 = 174$ $M_3 = 8.76$
Grant-in Aid	$N_4 = 182$ $M_4 = 8.87$	$N_5 = 50$ $M_5 = 9.34$	$N_6 = 162$ $M_6 = 9.92$
Self-Financed	$N_7 = 265$ $M_7 = 9.46$	$N_8 = 82$ $M_8 = 8.16$	$N_9 = 236$ $M_9 = 9.24$

N = Number of Pupil Teachers and M = Mean Scores

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of evaluation process dimension of B.Ed. programme on pupil teachers varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.216.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of evaluation process dimension of B.Ed. programme on pupil teachers.

Table 4.217

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Evaluation Process Dimension ofB.Ed. Programme on Pupil Teachers

Type of Institution – Government Colleges of Education (GCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
⬇	**⬇Mean⟶**	9.26	8.51	8.76
Punjab	9.26	-	**.75****	.50
Himachal Pradesh	8.51		-	.25
Haryana	8.76			**-**
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
⬇	**⬇Mean⟶**	8.87	9.34	9.92
Punjab	8.87	-	.47	**1.05****
Himachal Pradesh	9.34		-	**.58***
Haryana	9.92			**-**
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
⬇	**⬇Mean⟶**	9.46	8.16	9.24
Punjab	9.46	-	**1.30****	.22
Himachal Pradesh	8.16		-	**1.08****
Haryana	9.24			**-**

State - Punjab (PB)			
Type of Institution ———→		**Government**	**Grant-in Aid**	**Self-Financed**
↓**Mean** →	9.26	8.87	9.46
Government	9.26	-	.39	.20
Grant-in Aid	8.87		-	**.59****
Self-Financed	9.46			-

State - Himachal Pradesh (HP)			
Type of Institution ———→		**Government**	**Grant-in Aid**	**Self-Financed**
↓**Mean** →	8.51	9.34	8.16
Government	8.51	-	**.83****	.35
Grant-in Aid	9.34		-	**1.18****
Self-Financed	8.16			-

State – Haryana (HR)			
Type of Institution ———→		**Government**	**Grant-in Aid**	**Self-Financed**
↓**Mean** →	8.76	9.92	9.24
Government	8.76	-	**1.16****	.48
Grant-in Aid	9.92		-	**.68****
Self-Financed	9.24			-

$q_{k\ at\ .05}$ = 4.17 & HSD or Q $_{critical\ at\ .05}$ = .56; $q_{k\ at\ .01}$ = 4.88 & HSD or Q $_{critical\ at\ .01}$ = .66; $^{**}\alpha$ = .01 and $^{*}\alpha$ = .05

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.217.

For significant interaction of State x Type of Institution, Tukey's HSD test shows that -

➢ For impact of B.Ed. programme on pupil teachers w. r. t. state (table 4.217 and figure 4.116-A) (i) at GCE comparisons of means - PB > HP (M $_{PB – HP}$ = .75**) is significant at α = .01 whereas HR > HP (M $_{HR – HP}$ = .25 ns) and PB > HR (M $_{PB – HR}$ = .50 ns) are not significant at α = .05; (ii) at GIACE comparisons of means - HR > PB (M $_{HR –PB}$ = 1.05**) and HR > HP (M $_{HR – HP}$ = .58*) whereas HP > PB (M $_{HP – PB}$ = .47 ns) are non significant at α = .05 and (iii) at SFCE comparisons of means - PB > HP (M $_{PB – HP}$ = 1.30**) and HR > HP (M $_{HR – HP}$ = 1.08**) are significant at α = .01 whereas PB > HR (M $_{PB – HR}$ = .22 ns) is not significant at α = .05.

Thus, the significant effect of the state depends on the type of institution.
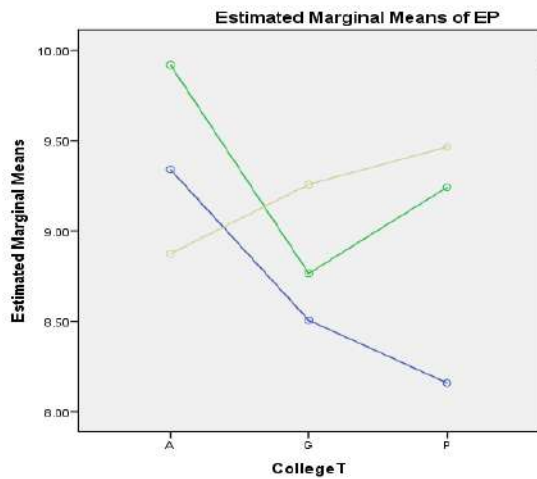
4.116-A (College=Constant) **4.116-B (State=Constant)**
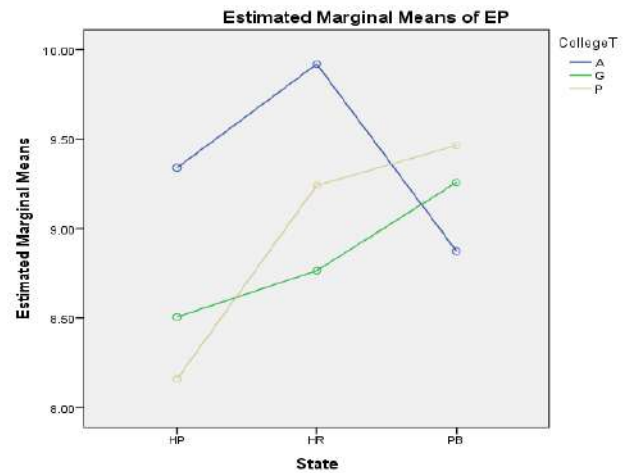
Figure 4.116 Interaction Effect of State (4.116-A) and Type of Institution (4.116-B) on the Impact of Evaluation Process Dimension of B.Ed. Programme on Pupil Teachers

➢ For impact of B.Ed. programme on pupil teachers w. r. t. type of institution (table 4.217 and figure 4.116-B) (i) at PB comparisons SFCE > GIACE ($M_{SFCE – GIACE}$ = .59**) is significant at α = .01 whereas SFCE > GCE ($M_{SFCE – GCE}$ = .20 ns) and GCE > GIACE ($M_{GCE – GIACE}$ = .39 ns) are non significant at α = .05 (ii) at HP comparisons of means - GIACE > SFCE ($M_{GIACE – SFCE}$ = 1.18**)and GIACE > GCE ($M_{GIACE – GCE}$ = .83**)are significant at α = .01 whereas GCE > SFCE ($M_{GCE –SFCE}$ = .35 ns) is not significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE ($M_{GIACE – GCE}$ = .1.16**) and GIACE > SFCE ($M_{GIACE – SFCE}$ = .68**) are significant at α = .01 whereas SFCE > GCE ($M_{SFCE –GCE}$ = .48 ns) is non significant atα = .05.

Thus, the significant effect of the type of institution depends on the state.

Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of evaluation process dimension of B.Ed. programme on pupil teachers.

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Hence, state and type of institution independently as well as together have a significant effect on the impact of evaluation process dimension of B.Ed. programme on pupil teachers.

4.2.1.5.12 Main and Interaction Effect of State and Type of Institution on the Impact of Professional Competencies Product Dimension of B. Ed. Programme on Pupil Teachers

Main Effect of State on the Impact of Professional Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of state on the impact of professional competencies product (PCPr) dimension of B.Ed. programme on pupil teachers of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{PCPr – State (2, 1427)} = 7.91$ is significant at $\alpha = .01$ (table 4.175). Thus, H_o stands not accepted for the effect of state on the impact of professional competencies product dimension of B.Ed. programme on pupil teachers.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have a statistically significant impact of professional competencies product dimension of B.Ed. programme on pupil teachers.

Table 4.218

Means Matrix Showing Significance of Difference in Means regarding the Impact of Professional Competencies Product Dimension of B.Ed. Programme on Pupil Teachers with respect to State

State			Punjab	Himachal Pradesh	Haryana
	N	**Mean** **SD**	25.99 3.10	24.71 3.47	25.79 3.56
Punjab	641	25.99 3.10	-	**4.87****	1.04
Himachal Pradesh	223	24.71 3.47		**-**	**3.91****
Haryana	572	25.79 3.56			**-**

**$\alpha = .01$ *and* *$\alpha = .05$

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The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of professional competencies product dimension of B.Ed. programme on pupil teachers with respect to the state.

Table 4.218 shows the significant mean differences on the impact of professional competencies product dimension of B.Ed. programme between the state of Punjab (M_{PB} = 25.99) vs Himachal Pradesh (M_{HP} = 24.71) favouring Punjab,as the value of t $_{(862)}$ = 4.87 is significant at α = .01; the state of Haryana (M_{HR} = 25.79) vs Himachal Pradesh (M_{HP} = 24.71) favouring Haryana,as the value of t $_{(793)}$ = 3.91 is significant at α = .01; and non-significant mean differences on the impact of professional competencies product dimension of B.Ed. programme exist between the state of Punjab (M_{PB} = 25.99) vs Haryana (M_{HR} = 25.79), as the value of t $_{(1211)}$ = 1.04 is not significant at α = .05. Thus, H_o stands not accepted for the pupil teachers of the state of Punjab vs Himachal Pradesh and Haryana vs Himachal whereas H_o stands accepted for the pupil teachers of the state of Punjab vs Haryana.

Hence, the impact of professional competencies product dimension of B.Ed. programme is significantly more in Punjab and Haryana states than that of Himachal Pradesh whereas both Punjab and Haryana do not have significant difference on the impact of professional competencies product dimension of B.Ed. programme on pupil teachers.

Main Effect of Type of Institution on the Impact of Professional Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of type of institution on the impact of professional competencies product (PCPr) dimension of B.Ed. programme on pupil teachers of the government, grant-in-aid, and self-financed colleges of education, as the value of F_{EP-TOI} $_{(2, 1427)}$ = 8.17 is significant at α = .01 (table 4.175). Thus, H_o stands not accepted for the effect of type of institution on the impact of professional competencies product dimension of B.Ed. programme on pupil teachers.

Hence, the government, grant-in-aid and self-financed colleges of education have a statistically significant impact of professional competencies product dimension of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of professional competencies product dimension of B.Ed. programme on pupil teachers with respect to the type of institution.

Table 4.219

Means Matrix Showing Significance of Difference in Means regarding the Impact of Professional Competencies Product Dimension of B.Ed. Programme on Pupil Teachers with respect to Type of Institution

Type of Institution ⟶			Government	Grant-in Aid	Self-Financed
↓	**N**	**Mean →** **SD ↓**	25.27 3.01	26.09 3.07	25.81 3.78
Government	459	25.27 3.01	-	**3.92****	**2.57***
Grant-in Aid	394	26.09 3.07		-	.13
Self-Financed	583	25.81 3.78			-

***$\alpha = .01$ and *$\alpha = .05$

The table 4.219 shows the significant mean differences on the impact of professional competencies product dimension of B.Ed. programme between the grant-in-aid (M_{GIACE} = 26.09) vs government (M_{GCE} = 25.27) colleges of education favouring the grant-in-aid colleges of education, as the value of t $_{(851)}$ = 3.92 is significant at α = .01; the self-financed (M_{SFCE} = 25.81) vs government (M_{GCE} = 25.27) colleges of education favouring the self-financed colleges of education, as the value of t $_{(1040)}$ = 2.57 is significant at α = .05; andnon-significant mean differenceon the impact of PCPr dimension of B.Ed. programme exist between the grant-in-aid (M_{GIACE} = 26.09) vs self-financed (M_{SFCE} = 25.81) colleges of education, as the value of t $_{(975)}$ = .13 is not significant at α = .05.

Thus, H_o stands not accepted for pupil teachers in the government colleges of education vs grant-in-aid colleges of education and the government colleges of education vs self-financed colleges of education comparisons whereas H_o stands accepted for pupil teachers in the grant-in-aid colleges of education vs self-financed colleges of education comparison.

Hence, both the grant-in-aid colleges of education and self-financed colleges of education have significantly more effect than government colleges of education on the impact of professional competencies product dimension of B.Ed. programme on pupil teachers whereas both the grant-in-aid colleges of education and self-financed colleges of education do not have significant difference on the impact of professional competencies product dimension of B.Ed. programme on pupil teachers.

Interaction Effect of State and Type of Institution on the Impact of Professional Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

In table 4.175, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of professional competencies product (PCPr) dimension of B.Ed. programme on pupil teachers is found to be significant, as the value of $F_{PCPr- State \times TOI (4, 1427)} = 19.00$ is significant at $\alpha = .01$. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of professional competencies product dimension of Product factor of B.Ed. programme on pupil teachers.

Table 4.220

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Professional Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

Type of Institution ↓ State →	Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 194$ $M_1 = 25.60$	$N_2 = 91$ $M_2 = 24.67$	$N_3 = 174$ $M_3 = 25.22$
Grant-in Aid	$N_4 = 182$ $M_4 = 25.15$	$N_5 = 50$ $M_5 = 26.16$	$N_6 = 162$ $M_6 = 27.12$
Self-Financed	$N_7 = 265$ $M_7 = 26.87$	$N_8 = 82$ $M_8 = 23.88$	$N_9 = 236$ $M_9 = 25.30$

N = Number of Pupil Teachers and M = Mean Scores

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of professional competencies product dimension of B.Ed. Programme on pupil teachers varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.220.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of professional competencies product dimension of B.Ed. programme on pupil teachers.

Table 4.221

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Professional Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

Type of Institution – Government Colleges of Education (GCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
⬇	⬇**Mean**⟶	25.60	24.67	25.22
Punjab	25.60	-	.93	.38
Himachal Pradesh	24.67		-	.55
Haryana	25.22			**-**
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
⬇	⬇**Mean**⟶	25.15	26.16	27.12
Punjab	25.15	-	1.01	**1.97**[**]
Himachal Pradesh	26.16		-	.96
Haryana	27.12			**-**
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
⬇	⬇**Mean**⟶	26.87	23.88	25.30
Punjab	26.87	-	**2.99**[**]	**1.57**[**]
Himachal Pradesh	23.88		-	**1.42**[*]
Haryana	25.30			**-**

State - Punjab (PB)			
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**⟶	25.60	25.15	26.87
Government	25.60	-	**1.45****	**1.27***
Grant-in Aid	25.15		-	**1.72****
Self-Financed	26.87			**-**
State - Himachal Pradesh (HP)			
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**⟶	24.67	26.16	23.88
Government	24.67	-	**1.49****	.79
Grant-in Aid	26.16		-	**2.28****
Self-Financed	23.88			**-**
State – Haryana (HR)			
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**⟶	25.22	27.12	25.30
Government	25.22	-	**1.90****	.08
Grant-in Aid	27.12		-	**1.82****
Self-Financed	25.30			**-**

$q_{k\ at\ .05} = 4.17$ & HSD or $Q_{critical\ at\ .05} = 1.23$; $q_{k\ at\ .01} = 4.88$ & HSD or $Q_{critical\ at\ .01} = 1.44$; **$\alpha = .01$ and *$\alpha = .05$
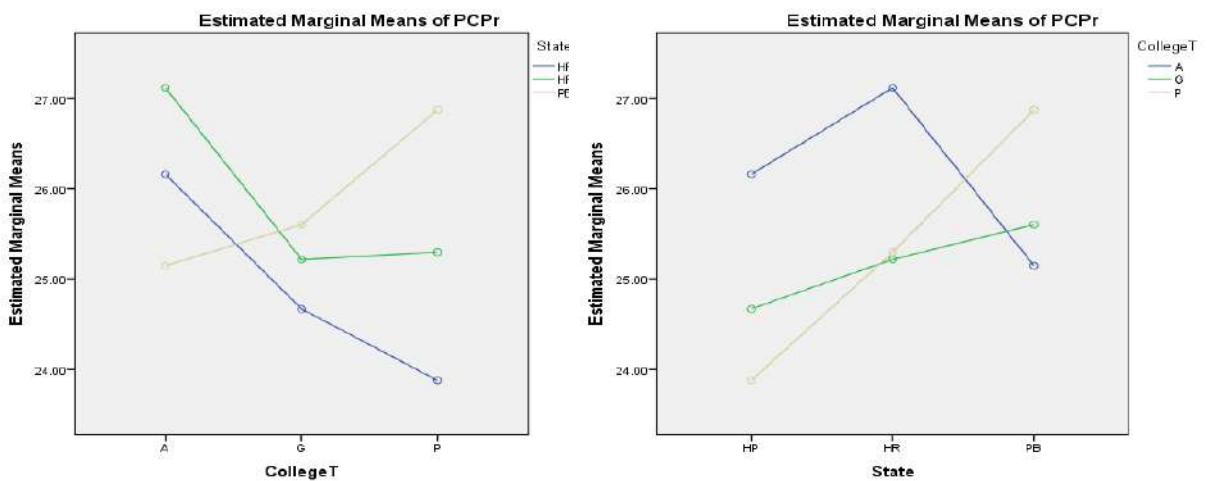
4.117-A (College =Constant)　　　　**4.117-B (State=Constant)**

Figure 4.117 Interaction Effect of State (4.117-A) and Type of Institution (4.117-B) on the Impact of Professional Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.221

For significant interaction of State x Type of Institution, Tukey's HSD test shows that -

- For impact of B.Ed. programme on pupil teachers w. r. t. state (table 4.221 and figure 4.117-A) (i) at GCE comparisons of means - PB > HP (M_{PB-HP} = .93 ns); HR > HP (M_{HR-HP} = .55 ns) and PB > HR (M_{PB-HR} = .38 ns) are not significant at α = .05; (ii) at GIACE comparisons of means - HR > PB (M_{HR-PB} = 1.97**) is significant at α = .01 whereas HR > HP (M_{HR-HP} = .96 ns) and HP > PB (M_{HP-PB} = 1.01 ns) are non significant at α = .05 and (iii) at SFCE comparisons of means - PB > HP (M_{PB-HP}= 2.99**) and PB > HR (M_{PB-HR} = 1.57**) are significant at α = .01 whereas HR > HP (M_{HR-HP} = 1.42*) is significant at α = .05.

  Thus, the significant effect of the state depends on the type of institution.

- For impact of B.Ed. programme on pupil teachers w. r. t. type of institution (table 4.221 and figure 4.117-B) (i) at PB comparisons SFCE > GIACE ($M_{SFCE-GIACE}$ = 1.72**) and SFCE > GCE ($M_{SFCE-GCE}$ = 1.27**)are significant at α = .01 whereas GCE > GIACE ($M_{GCE-GIACE}$ = .45 ns) is not significant at α = .05 (ii) at HP comparisons of means - GIACE > SFCE ($M_{GIACE-SFCE}$ = 2.28**)and GIACE > GCE ($M_{GIACE-GCE}$ = 1.49**)are significant at α = .01 whereas GCE > SFCE ($M_{GCE-SFCE}$ = .79 ns) is not significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE ($M_{GIACE-GCE}$ = 1.90**) and GIACE > SFCE ($M_{GIACE-SFCE}$ = 1.82**) are significant at α = .01 whereas SFCE > GCE ($M_{SFCE-GCE}$ = .08 ns) is non significant atα = .05.

  Thus, the significant effect of the type of institution depends on the state.

Thus, H₀ stands not accepted for the interaction effect of state and type of institution on the impact of professional competencies product dimension of B.Ed. programme on pupil teachers.

Hence, state and type of institution independently as well as together have a significant effect on the impact of professional competencies product dimension of B.Ed. programme on pupil teachers.

4.2.1.5.13   Main and Interaction Effect of State and Type of Institution on the Impact of Inclusive Competencies Product Dimension of B. Ed. Programme on Pupil Teachers

Main Effect of State on the Impact of Inclusive Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

There is a non-significant main effect of state on the impact of inclusive competencies product (ICPr) dimension of B.Ed. programme on pupil teachers of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{ICPr - State (2, 1427)} = 2.92$ is not significant at $\alpha = .05$ (table 4.175). Thus, H_o stands accepted for the effect of state on the impact of inclusive competencies product dimension of B.Ed. programme on pupil teachers.

Hence, the states of Punjab, Haryana, and Himachal Pradesh do not have a significant impact of inclusive competencies product dimension of B.Ed. programme on pupil teachers.

Main Effect of Type of Institution on the Impact of Inclusive Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of type of institution on the impact of inclusive competencies product (ICPr) dimension of B.Ed. programme on pupil teachers of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{EP - TOI (2, 1427)} = 8.17$ is significant at $\alpha = .01$ (table 4.175). Thus, H_o stands not accepted for the effect of type of institution on the impact of inclusive competencies product dimension of B.Ed. programme on pupil teachers.

Hence, the government, grant-in-aid, and self-financed colleges of education have a statistically significant impact of inclusive competencies product dimension of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of inclusive competencies product dimension of B.Ed. programme on pupil teachers w. r. t. the type of institution.

Table 4.222

Means Matrix Showing Significance of Difference in Means regarding the Impact of Inclusive Competencies Product Dimension of B.Ed. Programme on Pupil Teachers with respect to Type of Institution

Type of Institution ⟶			Government	Grant-in Aid	Self-Financed
↓	**N**	**Mean** ⟶ **SD** ↓	6.36 .98	6.52 .95	6.49 1.19
Government	459	6.36 .98	-	**2.42***	1.93
Grant-in Aid	394	6.52 .95		-	.44
Self-Financed	583	6.49 1.19			-

**α = .01 *and* *α = .05

Table 4.222 shows the significant mean difference on the impact of inclusive competencies product dimension of B.Ed. programme between the grant-in-aid (M_{GIACE} = 6.52) vs government (M_{GCE} = 6.36) colleges of education favouring the grant-in-aid colleges of education, as the value of t $_{(851)}$ = 2.42 is significant at α = .05, and non-significant mean differences on the impact of inclusive competencies product dimension of B.Ed. programme exist between the self-financed (M_{SFCE} = 6.49) vs government (M_{GCE} = 6.36) colleges of education, as the value of t $_{(1040)}$ = 1.93 is not significant at α = .05 as well as the grant-in-aid (M_{GIACE} = 6.52) vs self-financed (M_{SFCE} = 6.49) colleges of education, as the value of t $_{(975)}$ = .44 is not significant at α = .05.Thus, H_o stands not accepted for pupil teachers in the government colleges of education vs grant-in-aid colleges of education comparison whereas H_o stands accepted for pupil teachers in the government colleges of education vs self-financed colleges of education and the grant-in-aid colleges of education vs self-financed colleges of education comparisons.

Hence, the grant-in-aid colleges of education have significantly more effect than government colleges of education on the impact of inclusive competencies product dimension of B.Ed. programme on pupil teachers whereas the grant-in-aid colleges of education and self-financed colleges of education, as well as the government colleges of education and self-financed colleges of education, do not have significant differences on the impact of inclusive competencies product dimension of B.Ed. programme on pupil teachers.

Interaction Effect of State and Type of Institution on the Impact of Inclusive Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

In table 4.175, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of inclusive competencies product (ICPr) dimension of B.Ed. Programme on pupil teachers is found to be significant, as the value of $F_{ICPr\text{- State x TOI (4, 1427)}} = 11.98$ is significant at $\alpha = .01$. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of inclusive competencies product dimension of B.Ed. programme on pupil teachers.

Table 4.223

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Inclusive Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

Type of Institution ↓ State →	Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 194$ $M_1 = 6.44$	$N_2 = 91$ $M_2 = 6.29$	$N_3 = 174$ $M_3 = 6.31$
Grant-in Aid	$N_4 = 182$ $M_4 = 6.35$	$N_5 = 50$ $M_5 = 6.80$	$N_6 = 162$ $M_6 = 6.62$
Self-Financed	$N_7 = 265$ $M_7 = 6.81$	$N_8 = 82$ $M_8 = 6.04$	$N_9 = 236$ $M_9 = 6.29$

N = Number of Pupil Teachers and M = Mean Scores

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of inclusive competencies product dimension of B.Ed. Programme on pupil teachers varies due to any one of these (i.e. state and type of institution)

independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.223.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H$_o$:   There is no significant interaction effect of state and type of institution on the impact of inclusive competencies product dimension of B.Ed. programme on pupil teachers.

Table 4.224

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Inclusive Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

Type of Institution – Government Colleges of Education (GCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
⟱	**↓Mean** ⟶	6.44	6.29	6.31
Punjab	6.44	-	.15	.13
Himachal Pradesh	6.29		-	.02
Haryana	6.31			**-**
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
⟱	**↓Mean** ⟶	6.35	6.80	6.62
Punjab	6.35	-	**.45**[*]	.27
Himachal Pradesh	6.80		-	.18
Haryana	6.62			**-**
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
⟱	**↓Mean** ⟶	6.81	6.04	6.29
Punjab	6.81	-	**.77**[**]	**.52**[**]
Himachal Pradesh	6.04		-	.25
Haryana	6.29			**-**
State - Punjab (PB)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
⟱	**↓Mean** ⟶	6.44	6.35	6.81
Government	6.44	-	.09	.37
Grant-in Aid	6.35		-	**.46**[**]
Self-Financed	6.81			**-**

State - Himachal Pradesh (HP)				
Type of Institution ⟶	↓Mean ⟶	Government	Grant-in Aid	Self-Financed
		6.29	6.80	6.04
Government	6.29	-	**.51**[**]	.25
Grant-in Aid	6.80		-	**.76**[**]
Self-Financed	6.04			-
State – Haryana (HR)				
Type of Institution ⟶	↓Mean ⟶	Government	Grant-in Aid	Self-Financed
		6.31	6.62	6.29
Government	6.31	-	.31	.02
Grant-in Aid	6.62		-	.33
Self-Financed	6.29			-

$q_{k\ at\ .05} = 4.17$ & HSD or Q $_{critical\ at\ .05} = .39$; $q_{k\ at\ .01} = 4.88$ & HSD or Q $_{critical\ at\ .01} = .46$; [**]$\alpha = .01$ and [*]$\alpha = .05$

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.224.
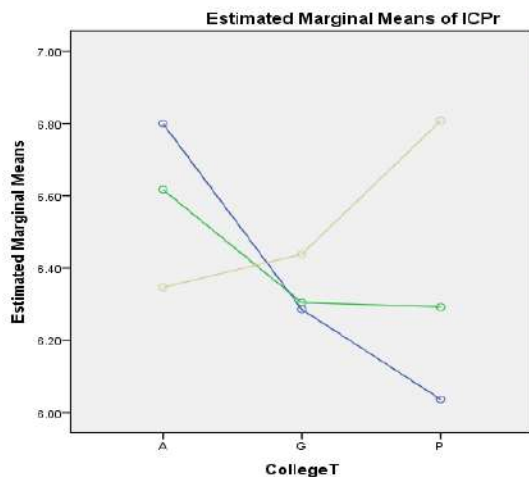
4.118-A (College =Constant)   4.118-B (State=Constant)
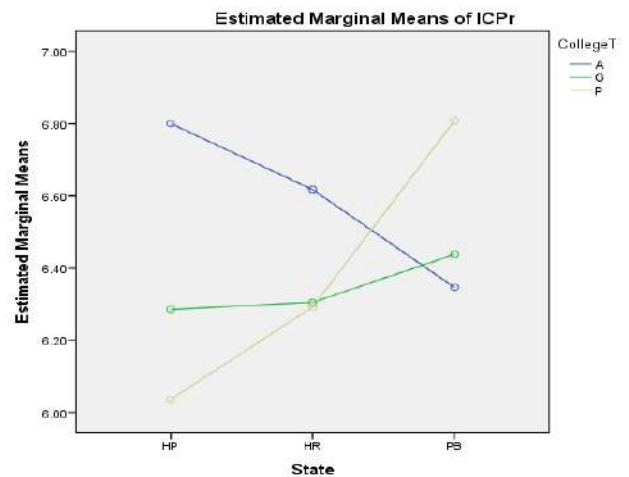
Figure 4.118 Interaction Effect of State (4.118-A) and Type of Institution (4.118-B) on the Impact of Inclusive Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

For significant interaction of State x Type of Institution, Tukey's HSD test shows that -

- ➤ For impact of B.Ed. programme on pupil teachers w. r. t. state (table 4.224 and figure 4.118-A) (i) at GCE comparisons of means - PB > HP ($M_{PB – HP}$ = .15 ns); HR > HP ($M_{HR – HP}$ = .02 ns) and PB > HR ($M_{PB – HR}$ = .13 ns) are not significant at α = .05; (ii) at GIACE comparisons of means - HP > PB ($M_{HP – PB}$ = .45**) is significant at α = .01 whereas HP > HR ($M_{HP – HR}$ = .18 ns) and HR > PB ($M_{HR – PB}$ = .27 ns) are non significant at α = .05 and (iii) at SFCE comparisons of means - PB > HP ($M_{PB – HP}$= .77**) and PB > HR ($M_{PB – HR}$ = .52**) are significant at α = .01 whereas HR > HP ($M_{HR – HP}$ = .25 ns) is not significant at α = .05.

Thus, the significant effect of the state depends on the type of institution.

- ➤ For impact of B.Ed. programme on pupil teachers w. r. t. type of institution (table 4.224 and figure 4.118-B) (i) at PB comparisons SFCE > GIACE ($M_{SFCE – GIACE}$ = .46**) is significant at α = .01 whereas SFCE > GCE ($M_{SFCE – GCE}$ = .37 ns) and GCE > GIACE ($M_{GCE – GIACE}$ = .09 ns) are non significant at α = .05 (ii) at HP comparisons of means - GIACE > SFCE ($M_{GIACE – SFCE}$ = .76**) and GIACE > GCE ($M_{GIACE – GCE}$ = .51**)are significant at α = .01 whereas GCE > SFCE ($M_{GCE –SFCE}$ = .25 ns) is not significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE ($M_{GIACE – GCE}$ = .31 ns); GIACE > SFCE ($M_{GIACE – SFCE}$ = .33 ns); and GCE > SFCE ($M_{GCE –SFCE}$ = .02 ns) are non significant atα = .05.

Thus, the significant effect of the type of institution depends on the state.

Thus, H$_o$ stands not accepted for the interaction effect of state and type of institution on the impact of inclusive competencies product dimension of B.Ed. programme on pupil teachers.

Hence, state independently has no significant effect but the type of institution independently as well as state and type of institution together have a significant effect on the impact of inclusive competencies product dimension of B.Ed. programme on pupil teachers.

4.2.1.5.14   Main and Interaction Effect of State and Type of Institution on the Impact of Teaching & Evaluation Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

Main Effect of State on the Impact of Teaching & Evaluation Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of state on the impact of teaching & evaluation competencies product (TECPr) dimension of B.Ed. programme on pupil teachers of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{TECPr - State\ (2,\ 1427)} = 7.77$ is significant at $\alpha = .01$ (table 4.175). Thus, H_o stands not accepted for the effect of state on the impact of teaching & evaluation competencies product dimension of B.Ed. programme on pupil teachers.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have a statistically significant impact of teaching & evaluation competencies product dimension of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of teaching & evaluation competencies product dimension of B.Ed. programme on pupil teachers w.r.t. state.

Table 4.225
Means Matrix Showing Significance of Difference in Means regarding the Impact of Teaching & Evaluation Competencies Product Dimension of B.Ed. Programme on Pupil Teachers with respect to the State

State			Punjab	Himachal Pradesh	Haryana
	N	Mean → SD ↓	19.44 2.40	18.35 3.04	19.31 2.85
Punjab	641	19.44 2.40	-	**4.85****	.85
Himachal Pradesh	223	18.35 3.04		-	**4.07****
Haryana	572	19.31 2.85			-

***α = .01 and* **α = .05*

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Table 4.225 shows the significant mean differences on the impact of teaching & evaluation competencies product dimension of B.Ed. programme between the state of Punjab (M_{PB} = 19.44) vs Himachal Pradesh (M_{HP} = 18.35) favouring Punjab, as the value of t $_{(862)}$ = 4.85 is significant at α = .01; the state of Haryana (M_{HR} = 19.31) vs Himachal Pradesh (M_{HP} = 18.35) favouring Haryana,as the value of t $_{(793)}$ = 4.07 is significant at α = .01; and non-significant mean difference on the impact of TECPr dimension of B.Ed. programme exist between the state of Punjab (M_{PB} = 19.44) vs Haryana (M_{HR} = 19.31), as the value of t $_{(1211)}$ = .85 is not significant at α = .05. Thus, H_o stands not accepted for the PTs of the state of Punjab vs Himachal Pradesh and Haryana vs Himachal whereas H_o stands accepted for the pupil teachers of the state of Punjab vs Haryana.

Hence, the impact of teaching & evaluation competencies product dimension of B.Ed. programme is significantly more in Punjab and Haryana states than that of Himachal Pradesh whereas both Punjab and Haryana do not have significant difference on the impact of teaching & evaluation competencies product dimension of B.Ed. programme on pupil teachers.

Main Effect of Type of Institution on the Impact of Teaching & Evaluation Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

There is a significant main effect of type of institution on the impact of teaching & evaluation competencies product (TECPr) dimension of B.Ed. programme on pupil teachers of the government, grant-in-aid, and self-financed colleges of education, as the value of F $_{EP – TOI (2, 1427)}$ = 13.87 is significant at α = .01 (table 4.175). Thus, H_o stands not accepted for the effect of type of institution on the impact of teaching & evaluation competencies product dimension of B.Ed. programme on pupil teachers.

Hence, the government, grant-in-aid, and self-financed colleges of education have a statistically significant impact of teaching & evaluation competencies product dimension of B.Ed. programme on pupil teachers.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

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H_o: There is no significant difference in the impact of teaching & evaluation competencies product dimension of B.Ed. programme on pupil teachers with respect to the type of institution.

Table 4.226

Means Matrix Showing Significance of Difference in Means regarding the Impact of Teaching & Evaluation Competencies Product Dimension of B.Ed. Programme on Pupil Teachers with respect to Type of Institution

Type of Institution ——————→			Government	Grant-in Aid	Self-Financed
	N	**Mean** → **SD** ↓	18.76 2.39	19.53 2.57	19.38 3.01
Government	459	18.76 2.39	-	**4.51**[**]	**3.71**[**]
Grant-in Aid	394	19.53 2.57		-	.84
Self-Financed	583	19.38 3.01			-

[**]$\alpha = .01$ *and* [*]$\alpha = .05$

Table 4.226 shows the significant mean differences on the impact of teaching & evaluation competencies product dimension of B.Ed. programme between the grant-in-aid ($M_{GIACE} = 19.53$) vs government ($M_{GCE} = 18.76$) colleges of education favouring the grant-in-aid colleges of education, as the value of t $_{(851)} = 4.51$ is significant at $\alpha = .01$; the self-financed ($M_{SFCE} = 19.38$) vs government ($M_{GCE} = 18.76$) colleges of education favouring the self-financed colleges of education, as the value of t $_{(1040)} = 3.71$ is significant at $\alpha = .01$; and non-significant mean differences on the impact of teaching & evaluation competencies product dimension of B.Ed. programme exist between the grant-in-aid ($M_{GIACE} = 19.53$) vs self-financed ($M_{SFCE} = 19.38$) colleges of education, as the value of t $_{(975)} = .84$ is not significant at $\alpha = .05$. Thus, H_o stands not accepted for pupil teachers in the government colleges of education vs grant-in-aid colleges of education and the government colleges of education vs self-financed colleges of education comparisons whereas H_o stands accepted for pupil teachers in the grant-in-aid colleges of education vs self-financed colleges of education comparison.

Hence, both the grant-in-aid colleges of education and self-financed colleges of education have significantly more effect than government colleges of education on the impact of teaching & evaluation competencies product dimension of B.Ed. programme on pupil teachers whereas both the grant-in-aid colleges of education and self-financed colleges of education do not have significant difference on the impact of teaching & evaluation competencies product dimension of B.Ed. programme on pupil teachers.

Interaction Effect of State and Type of Institution on the Impact of Teaching & Evaluation Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

In table 4.175, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of teaching & evaluation competencies product (TECPr) dimension of B.Ed. programme on pupil teachers is found to be significant, as the values of $F_{\text{TECPr- State x TOI (4, 1427)}} = 22.06$ is significant at $\alpha = .01$. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of teaching & evaluation competencies product dimension of B.Ed. programme on pupil teachers.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of teaching & evaluation competencies product dimension of B.Ed. programme on pupil teachers varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.227 below:

Table 4.227

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Teaching & Evaluation Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

Type of Institution ↓ State →	Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 194$ $M_1 = 19.24$	$N_2 = 91$ $M_2 = 17.99$	$N_3 = 174$ $M_3 = 18.64$
Grant-in Aid	$N_4 = 182$ $M_4 = 18.63$	$N_5 = 50$ $M_5 = 20.02$	$N_6 = 162$ $M_6 = 20.38$
Self-Financed	$N_7 = 265$ $M_7 = 20.15$	$N_8 = 82$ $M_8 = 17.73$	$N_9 = 236$ $M_9 = 19.08$

N = Number of Pupil Teachers and M = Mean Scores

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The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H$_o$:   There is no significant interaction effect of state and type of institution on the impact of teaching & evaluation competencies product dimension of B.Ed. programme on pupil teachers.

Table 4.228

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Teaching & Evaluation Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

Type of Institution – Government Colleges of Education (GCE)			
State		**Punjab**	**Himachal Pradesh**	**Haryana**
	↓**Mean**	19.24	17.99	18.64
Punjab	19.24	-	**1.25****	.60
Himachal Pradesh	17.99		-	.65
Haryana	18.64			**-**
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)			
State		**Punjab**	**Himachal Pradesh**	**Haryana**
	↓**Mean**	18.63	20.02	20.38
Punjab	18.63	-	**1.39****	**1.75****
Himachal Pradesh	20.02		-	.36
Haryana	20.38			**-**
Type of Institution – Self-Financed Colleges of Education (SFCE)			
State		**Punjab**	**Himachal Pradesh**	**Haryana**
	↓**Mean**	20.15	17.73	19.08
Punjab	20.15	-	**2.42****	**1.07***
Himachal Pradesh	17.73		-	**1.35****
Haryana	19.08			**-**
State - Punjab (PB)			
Type of Institution		**Government**	**Grant-in Aid**	**Self-Financed**
	↓**Mean**	19.24	18.63	20.15
Government	19.24	-	61	.91
Grant-in Aid	18.63		-	**1.52****
Self-Financed	20.15			**-**

State - Himachal Pradesh (HP)				
Type of Institution———————➤		Government	Grant-in Aid	Self-Financed
	↓Mean➤	17.99	20.02	17.73
Government	17.99	-	**2.03**[**]	.26
Grant-in Aid	20.02		-	**2.29**[**]
Self-Financed	17.73			**-**
State – Haryana (HR)				
Type of Institution———————➤		Government	Grant-in Aid	Self-Financed
	↓Mean➤	18.64	20.38	19.08
Government	18.64	-	**1.74**[**]	.44
Grant-in Aid	20.38		-	**1.03**[*]
Self-Financed	19.08			**-**

$q_{k\,at\,.05} = 4.17$ & HSD or $Q_{critical\,at\,.05} = .98$; $q_{k\,at\,.01} = 4.88$ & HSD or $Q_{critical\,at\,.01} = 1.15$; [**]$α = .01$ and [*] $α = .05$

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.228.
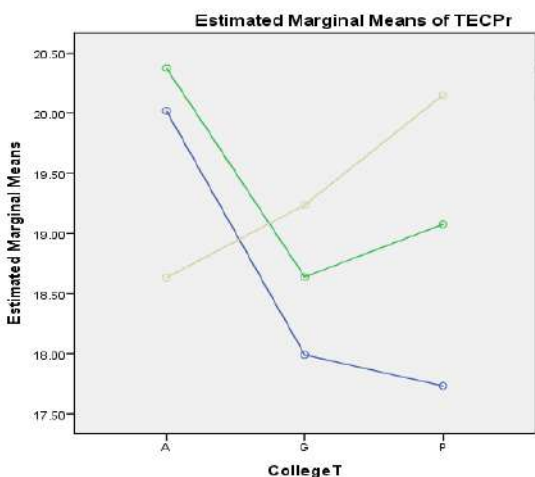
4.119-A (College =Constant)   4.119-B (State=Constant)
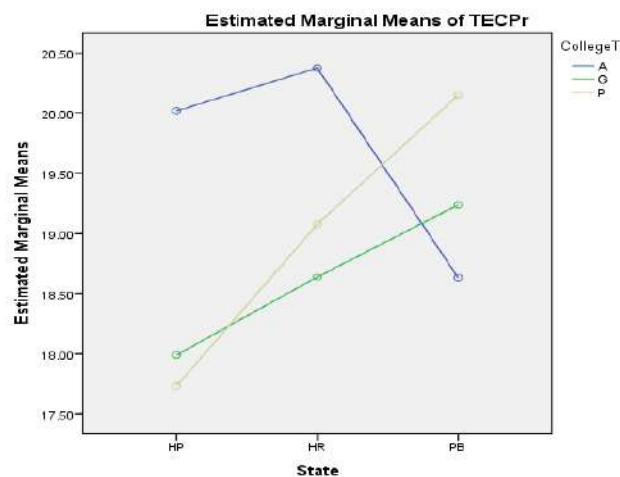
Figure 4.119 Interaction Effect of State (4.119-A) and Type of Institution (4.119-B) on the Impact of Teaching & Evaluation Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

For significant interaction of State x Type of Institution, Tukey's HSD test shows that -

➢ For impact of B.Ed. programme on pupil teachers w. r. t. state (table 4.228 and figure 4.119-A) (i) at GCE comparisons of means - PB > HP (M_{PB-HP} = 1.25**) is significant at α = .05 whereas HR > HP (M_{HR-HP} = .65 ns) and PB > HR (M_{PB-HR} = .60 ns) are not significant at α = .05; (ii) at GIACE comparisons of means - HP > PB (M_{HP-PB} = 1.39**) and HR > PB (M_{HR-PB} = 1.75**) are significant at α = .01 whereas HR > HP (M_{HR-HP} = .36 ns) is non significant at α = .05 and (iii) at SFCE comparisons of means - PB > HP (M_{PB-HP} = 2.42**); PB > HR (M_{PB-HR} = 1.07**); and HR > HP (M_{HR-HP} = 1.38**) are significant at α = .01.

Thus, the significant effect of a state depends on the type of institution.

➢ For impact of B.Ed. programme on pupil teachers w. r. t. type of institution (table 4.228 and figure 4.119-B) (i) at PB comparisons SFCE > GIACE ($M_{SFCE-GIACE}$ = 1.52**) is significant at α = .01 whereas SFCE > GCE ($M_{SFCE-GCE}$ = .91 ns) and GCE > GIACE ($M_{GCE-GIACE}$ = .61 ns) are non significant at α = .05 (ii) at HP comparisons of means - GIACE > SFCE ($M_{GIACE-SFCE}$ = 2.29**)and GIACE > GCE ($M_{GIACE-GCE}$ = 2.03**)are significant at α = .01 whereas GCE > SFCE ($M_{GCE-SFCE}$ = .26 ns) is not significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE ($M_{GIACE-GCE}$ = 1.74**) and GIACE > SFCE ($M_{GIACE-SFCE}$ = 1.03*) are significant at α = .01 and α = .05 respectively whereas SFCE > GCE ($M_{GCE-SFCE}$ = .44 ns) is non significant atα = .05.

Thus, the significant effect of the type of institution depends on the state.

Thus, H$_o$ stands not accepted for the interaction effect of state and type of institution on the impact of teaching & evaluation competencies product dimension of B.Ed. programme on pupil teachers.

Hence, state and type of institution independently as well as together have a significant effect on the impact of teaching & evaluation competencies product dimension of B.Ed. programme on pupil teachers.

4.2.1.5.15   Effect of Type of Self-Financed Institution on the Dimensionwise Impact of B.Ed. Programme on Pupil Teachers

t-test (independent samples) was applied to study the effect of a single independent variable i.e., type of self-financed institution on a single dependent variable i.e., the dimensionwise impact of B.Ed. programme (IBP) on pupil teachers on the data obtained in terms of rating scores of pupil teachers on ESIBP (dimensionwise data) after the computation of means and standard deviations. The term type of self-financed institution, here, refers to two types of self-financed institutions i.e., self-financed institutions affiliated to state government universities (SFISGU) and self-financed institutions affiliated to private universities (SFIPU) (table 4.228A).

Table 4.228A

Means Matrices Showing Significance of Difference in Means regarding the Dimensionwise Impact of B.Ed. Programme on Pupil Teachers with respect to Type of Self-Financed Institution

Sr. No.	Dimensions of B.Ed. Programme	University			SFISGU	SFIPU
			N	Mean SD	13.07 1.83	13.49 1.44
1.	*Mission & Vision (MV)*	SFISGU	433	13.07 1.83	-	**2.87****
		SFIPU	150	13.49 1.44		**-**
2.	*Programme Objectives (PO)*			Mean SD	12.85 1.93	13.43 1.50
		SFISGU	433	12.85 1.93	-	**3.81****
		SFIPU	150	13.43 1.50		**-**
3.	*Academic Input (AI)*			Mean SD	9.46 1.80	9.81 1.34
		SFISGU	433	9.46 1.80	-	**2.53****
		SFIPU	150	9.81 1.34		**-**

4.	*Resource Input (RI)*			**Mean** → **SD** ↓	9.05 2.22	9.83 1.43
		SFISGU	433	9.05 2.22	-	**5.24****
		SFIPU	150	9.83 1.43		**-**
5.	*Training Input (TI)*			**Mean** → **SD** ↓	18.89 2.97	19.65 2.17
		SFISGU	433	18.89 2.97	-	**3.32****
		SFIPU	150	19.65 2.17		**-**
6.	*Professional Input (PI)*			**Mean** → **SD** ↓	6.07 1.36	6.58 1.01
		SFISGU	433	6.07 1.36	-	**4.88****
		SFIPU	150	6.58 1.01		**-**
7.	*Curriculum Transaction Process (CTP)*			**Mean** → **SD** ↓	21.81 3.33	23.07 2.82
		SFISGU	433	21.81 3.33	-	**4.50****
		SFIPU	150	23.07 2.82		**-**
8.	*Professional Process (PP)*			**Mean** → **SD** ↓	12.28 2.29	13.01 1.80
		SFISGU	433	12.28 2.29	-	**4.01****
		SFIPU	150	13.01 1.80		**-**
9.	*Training Process (TP)*			**Mean** → **SD** ↓	8.98 1.65	9.75 1.46
		SFISGU	433	8.98 1.65	-	**5.06****
		SFIPU	150	9.75 1.46		**-**
10.	*Academic Process (AP)*			**Mean** → **SD** ↓	5.92 1.39	6.36 .96
		SFISGU	433	5.92 1.39	-	**4.31****
		SFIPU	150	6.36 .96		**-**

11.	*Evaluation Process (EP)*			**Mean** → SD ↓	9.03 1.71	9.65 1.26
		SFISGU	433	9.03 1.71	-	**4.74****
		SFIPU	150	9.65 1.26		**-**
12.	*Professional Competencies Product (PCPr)*			**Mean** → SD ↓	25.47 4.01	26.81 2.79
		SFISGU	433	25.47 4.01	-	**4.48****
		SFIPU	150	26.81 2.79		**-**
13.	*Inclusive Competencies Product (ICPr)*			**Mean** → SD ↓	6.42 1.27	6.69 .90
		SFISGU	433	6.42 1.27	-	**2.77****
		SFIPU	150	6.69 .90		**-**
14.	*Teaching & Evaluation Competencies Product (TECPr)*			**Mean** → SD ↓	19.16 3.16	20.01 2.41
		SFISGU	433	19.16 3.16	-	**3.46****
		SFIPU	150	20.01 2.41		**-**

$^{**}\alpha = .01$ *and* $^{*}\alpha = .05$

SFISGU (Self-financed institutions affiliated with state government universities) and SFIPU (Self-financed institutions affiliated with private universities)

The significance of the difference between means of the impact of fourteen dimensions, i.e. Mission & Vision; Programme Objectives; Academic Input; Resource Input; Training Input; Professional Input; Curriculum Transaction Process; Professional Process; Training Process; Academic Process; Evaluation Process; Professional Competencies Product; Inclusive Competencies Product; and Teaching & Evaluation Competencies Product of four factors of evaluation i.e., Context, Input, Process, and Product factors, of B.Ed. programme in case of pupil teachers with respect to the type of self-financed institution have been computed, compared (table 4.228A), and tested against the following null hypothesis:

H_o: There is no significant difference in the dimensionwise impact of B.Ed. programme on pupil teachers with respect to the type of self-financed institution.

4.2.1.5.15.1   Effect of Type of Self-Financed Institution on the Impact of Mission &
Vision Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of mission & vision (MV) dimension of B.Ed. programme on pupil teachers is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 13.07) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 13.49), as the value of t $_{(531)}$ = 2.87 is significant at α = .01 favouring self-financed institutions affiliated to private universities (table 4.228A). Therefore, the higher mean score of the impact of mission & vision dimension of B.Ed. programme for pupil teachers of self-financed institutions affiliated to private universities indicates that self-financed institutions affiliated to private universities have significantly more effect than self-financed institutions affiliated to state government universities on the impact of mission & vision dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has a significant effect on the impact of the mission & vision dimension of B.Ed. programme on pupil teachers.

4.2.1.5.15.2   Effect of Type of Self-Financed Institution on the Impact of Programme
Objectives Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of programme objectives (PO) dimension of B.Ed. programme on pupil teachers is between the self-financed institutions affiliated to state government universities (M_{SFISGU} =12.85) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 13.43), as the value of t $_{(531)}$ = 3.81 is significant at α = .01 favouring self-financed universities (table 4.228A). Therefore, the higher mean score of the impact of programme objectives dimension of B.Ed. programme for pupil teachers of self-financed institutions affiliated to private universities indicates that self-financed institutions affiliated to private universities have significantly more effect than self-financed institutions affiliated to state government universities on the impact of programme objectives dimension of B.Ed. programme on pupil teachers. Thus, H_o stands

not accepted for pupil teachers of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has a significant effect on the impact of programme objectives dimension of B.Ed. programme on pupil teachers.

4.2.1.5.15.3   Effect of Type of Self-Financed Institution on the Impact of Academic Input Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of academic input (AI) dimension of B.Ed. programme on pupil teachers is between the self-financed institutions affiliated to state government universities ($M_{SFISGU} = 9.46$) vs self-financed institutions affiliated to private universities ($M_{SFIPU} = 9.80$), as the value of t $_{(531)} = 2.53$ is significant at $\alpha = .05$ favouring self-financed institutions affiliated to private universities (table 4.228A). Therefore, the higher mean score of the impact of academic input dimension of B.Ed. programme for pupil teachers of self-financed institutions affiliated to private universities indicates that self-financed institutions affiliated to private universities have significantly more effect than self-financed institutions affiliated to state government universities on the impact of academic input dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, type of university has a significant effect on the impact of the academic input dimension of B.Ed. programme on pupil teachers.

4.2.1.5.15.4   Effect of Type of Self-Financed Institution on the Impact of Resource Input Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of resource input (RI) dimension of B.Ed. programme on pupil teachers is between the self-financed institutions affiliated to state government universities ($M_{SFISGU} = 9.01$) vs self-financed institutions affiliated to private universities ($M_{SFIPU} = 9.83$), as the value of t $_{(531)} = 5.24$ is significant at $\alpha = .01$ favouring self-financed institutions affiliated to private universities (table 4.228A). Therefore, the higher mean score of the impact of resource input dimension of B.Ed. programme for pupil teachers of self-financed institutions affiliated to private universities indicates that

self-financed institutions affiliated to private universities have significantly more effect than self-financed institutions affiliated to state government universities on the impact of resource input dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has a significant effect on the impact of the resource input dimension of B.Ed. programme on pupil teachers.

4.2.1.5.15.5 Effect of Type of Self-Financed Institution on the Impact of Training Input Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of training input (TI) dimension of B.Ed. programme on pupil teachers is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 18.89) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 19.65), as the value of t $_{(531)}$ = 3.32 is significant at α = .01 favouring self-financed institutions affiliated to private universities (table 4.228A). Therefore, the higher mean score of the impact of training input dimension of B.Ed. programme for pupil teachers of self-financed institutions affiliated to private universities indicates that self-financed institutions affiliated to private universities have significantly more effect than self-financed institutions affiliated to state government universities on the impact of training input dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has a significant effect on the impact of the training input dimension of B.Ed. programme on pupil teachers.

4.2.1.5.15.6 Effect of Type of Self-Financed Institution on the Impact of Professional Input Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of professional input (PI) dimension of B.Ed. programme on pupil teachers is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 6.07) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 6.58), as the value of t $_{(531)}$ = 4.88 is significant at α = .01 favouring

self-financed institutions affiliated to private universities (table 4.228A). Therefore, the higher mean score of the impact of professional input dimension of B.Ed. programme for pupil teachers of self-financed institutions affiliated to private universities indicates that self-financed institutions affiliated to private universities have significantly more effect than self-financed institutions affiliated to state government universities on the impact of professional input dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has a significant effect on the impact of the professional input dimension of B.Ed. programme on pupil teachers.

4.2.1.5.15.7 Effect of Type of Self-Financed Institution on the Impact of Curriculum Transaction Process Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of curriculum transaction process (CTP) dimension of B.Ed. programme on pupil teachers is between the self-financed institutions affiliated to state government universities ($M_{SFISGU} = 21.81$) vs self-financed institutions affiliated to private universities ($M_{SFIPU} = 23.07$), as the value of t $_{(531)} = 4.50$ is significant at $\alpha = .01$ favouring self-financed institutions affiliated to private universities (table 4.228A). Therefore, the higher mean score of the impact of curriculum transaction process dimension of B.Ed. programme for pupil teachers of self-financed institutions affiliated to private universities indicates that self-financed institutions affiliated to private universities have significantly more effect than self-financed institutions affiliated to state government universities on the impact of curriculum transaction process dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, type of university has a significant effect on the impact of curriculum transaction process dimension of B.Ed. programme on pupil teachers.

4.2.1.5.15.8　Effect of Type of Self-Financed Institution on the Impact of Professional Process Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of professional process (PP) dimension of B.Ed. programme on pupil teachers is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 12.28) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 13.01), as the value of t $_{(531)}$ = 4.01 is significant at α = .01 favouring self-financed institutions affiliated to private universities (table 4.228A). Therefore, the higher mean score of the impact of professional process dimension of B.Ed. programme for pupil teachers of self-financed institutions affiliated to private universities indicates that self-financed institutions affiliated to private universities have significantly more effect than self-financed institutions affiliated to state government universities on the impact of professional process dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has a significant effect on the impact of the professional process dimension of B.Ed. programme on pupil teachers.

4.2.1.5.15.9　Effect of Type of Self-Financed Institution on the Impact of Training Process Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of training process (TP) dimension of B.Ed. programme on pupil teachers is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 8.98) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 9.75), as the value of t $_{(531)}$ = 5.06 is significant at α = .01 favouring self-financed institutions affiliated to private universities (table 4.228A). Therefore, the higher mean score of the impact of training process dimension of B.Ed. programme for pupil teachers of self-financed institutions affiliated to private universities indicates that self-financed institutions affiliated to private universities have significantly more effect than self-financed institutions affiliated to state government universities on the impact of training process dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not

accepted for pupil teachers of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has a significant effect on the impact of the training process dimension of B.Ed. programme on pupil teachers.

4.2.1.5.15.10 Effect of Type of Self-Financed Institution on the Impact of Academic Process Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of academic process (AP) dimension of B.Ed. programme on pupil teachers is between the self-financed institutions affiliated to state government universities ($M_{SFISGU} = 5.92$) vs self-financed institutions affiliated to private universities ($M_{SFIPU} = 6.36$), as the value of t $_{(531)} = 4.31$ is significant at $\alpha = .01$ favouring self-financed institutions affiliated to private universities (table 4.228A). Therefore, the higher mean score of the impact of academic process dimension of B.Ed. programme for pupil teachers of self-financed institutions affiliated to private universities indicates that self-financed institutions affiliated to private universities have significantly more effect than self-financed institutions affiliated to state government universities on the impact of academic process dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of university has a significant effect on the impact of the academic process dimension of B.Ed. programme on pupil teachers.

4.2.1.5.15.11 Effect of Type of Self-Financed Institution on the Impact of Evaluation Process Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of evaluation process (EP) dimension of B.Ed. programme on pupil teachers is between the self-financed institutions affiliated to state government universities ($M_{SFISGU} = 9.03$) vs self-financed institutions affiliated to private universities ($M_{SFIPU} = 9.65$), as the value of t $_{(531)} = 4.74$ is significant at $\alpha = .01$ favouring self-financed institutions affiliated to private universities (table 4.228A). Therefore, the higher mean score of the impact of evaluation process dimension of B.Ed. programme for pupil teachers of self-financed institutions affiliated to private universities indicates that

self-financed institutions affiliated to private universities have significantly more effect than self-financed institutions affiliated to state government universities impact of evaluation process dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has a significant effect on the impact of the evaluation process dimension of B.Ed. programme on pupil teachers.

4.2.1.5.15.12 Effect of Type of Self-Financed Institution on the Impact of Professional Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of professional competencies product (PCPr) dimension of B.Ed. programme on pupil teachers is between the self-financed institutions affiliated to state government universities ($M_{SFISGU} = 25.47$) vs self-financed institutions affiliated to private universities ($M_{SFIPU} = 26.81$), as the value of t $_{(531)} = 4.48$ is significant at $\alpha = .01$ favouring self-financed institutions affiliated to private universities (table 4.228A). Therefore, the higher mean score of the impact of professional competencies product dimension of B.Ed. programme for pupil teachers of self-financed institutions affiliated to private universities indicates that self-financed institutions affiliated to private universities have significantly more effect than self-financed institutions affiliated to state government universities on the impact of professional competencies product dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institutions has a significant effect on the impact of professional competencies product dimension of B.Ed. programme on pupil teachers.

4.2.1.5.15.13 Effect of Type of Self-Financed Institution on the Impact of Inclusive Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on impact of inclusive competencies product (ICPr) dimension of B.Ed. programme on pupil teachers is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 6.42) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 6.69), as the value of t $_{(531)}$ = 2.77 is significant at α = .01 favouring self-financed institutions affiliated to private universities (table 4.228A). Therefore, the higher mean score of the impact of inclusive competencies product dimension of B.Ed. programme for pupil teachers of self-financed institutions affiliated to private universities indicates that self-financed institutions affiliated to private universities have significantly more effect than self-financed institutions affiliated to state government universities on the impact of inclusive competencies product dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has a significant effect on the impact of inclusive competencies product dimension of B.Ed. programme on pupil teachers.

4.2.1.5.15.14 Effect of Type of Self-Financed Institution on the Impact of Teaching & Evaluation Product Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of teaching & evaluation competencies product (TECPr) dimension of B.Ed. programme on pupil teachers is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 19.16) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 20.01), as the value of t $_{(531)}$ = 3.46 is significant at α = .01 favouring self-financed institutions affiliated to private universities (table 4.228A). Therefore, the higher mean score of the impact of teaching & evaluation competencies product dimension of B.Ed. programme for pupil teachers of self-financed institutions affiliated to private universities indicates that self-financed institutions affiliated to private universities have significantly more effect than self-

financed institutions affiliated to state government universities on the impact of teaching & evaluation competencies product dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has a significant effect on the impact of teaching & evaluation competencies product dimension of B.Ed. programme on pupil teachers.

4.2.1.6 Effect of University on the Dimensionwise Impact of B.Ed. Programme on Pupil Teachers

t-test (independent samples) was applied to study the effect of a single independent variable i.e., university on a single dependent variable i.e., the dimensionwise impact of B.Ed. programme (IBP) on PTs on the data obtained in terms of rating scores of pupil teachers on ESIBP (dimensionwise data) after the computation of means and standard deviations. The term university, here, refers to two universities i.e., state government universities (SGU) and private universities (PU) (table 4.229).

Table 4.229
Means Matrices Showing Significance of Difference in Means regarding the Dimensionwise Impact of B.Ed. Programme on Pupil Teachers with respect to University

Sr. No.	Dimensions of B.Ed. Programme	University			SGU	PU
			N	Mean SD	13.05 1.64	13.49 1.44
1.	*Mission & Vision (MV)*	SGU	1286	13.05 1.64	-	**3.16****
		PU	150	13.49 1.44		**-**
2.	*Programme Objectives (PO)*			Mean SD	12.78 1.78	13.43 1.50
		SGU	1286	12.78 1.78	-	**4.34****
		PU	150	13.43 1.50		**-**

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#	Variable	Group	N		SGU	PU
3.	*Academic Input (AI)*			Mean SD →	9.31 1.57	9.80 1.34
		SGU	1286	9.31 1.57	-	**3.69****
		PU	150	9.80 1.34		-
4.	*Resource Input (RI)*			Mean SD →	9.24 1.92	9.83 1.43
		SGU	1286	9.24 1.92	-	**4.62****
		PU	150	9.83 1.43		-
5.	*Training Input (TI)*			Mean SD →	18.85 2.68	19.65 2.17
		SGU	1286	18.85 2.68	-	**4.16****
		PU	150	19.65 2.17		-
6.	*Professional Input (PI)*			Mean SD →	6.19 1.20	6.58 1.01
		SGU	1286	6.19 1.20	-	**3.82****
		PU	150	6.58 1.01		-
7.	*Curriculum Transaction Process (CTP)*			Mean SD →	22.00 3.19	23.07 2.82
		SGU	1286	22.00 3.19	-	**3.93****
		PU	150	23.07 2.82		-
8.	*Professional Process (PP)*			Mean SD →	12.20 2.10	13.01 1.80
		SGU	1286	12.20 2.10	-	**5.17****
		PU	150	13.01 1.80		-
9.	*Training Process (TP)*			Mean SD →	8.88 1.63	9.75 1.46
		SGU	1286	8.88 1.63	-	**6.23****
		PU	150	9.75 1.46		-

				Mean SD		6.00 1.22	6.36 .96
10.	*Academic Process (AP)*	SGU	1286	6.00 1.22		-	**3.46****
		PU	150	6.36 .96			-
				Mean SD		9.09 1.56	9.65 1.26
11.	*Evaluation Process (EP)*	SGU	1286	9.09 1.56		-	**5.02****
		PU	150	9.65 1.26			-
				Mean SD		51.14 6.49	53.51 5.49
12.	*Professional Competencies Product (PCPr)*	SGU	1286	25.59 3.41		-	**4.94****
		PU	150	26.81 2.79			-
				Mean SD		6.43 1.08	6.69 .90
13.	*Inclusive Competencies Product (ICPr)*	SGU	1286	6.43 1.08		-	**2.83****
		PU	150	6.69 .90			-
				Mean SD		19.13 2.74	20.01 2.41
14.	*Teaching & Evaluation Competencies Product (TECPr)*	SGU	1286	19.13 2.74		-	**3.79****
		PU	150	20.01 2.41			-

**α = .01 and * α = .05

The significance of the difference between means of the impact of fourteen dimensions, i.e. Mission & Vision; Programme Objectives; Academic Input; Resource Input; Training Input; Professional Input; Curriculum Transaction Process; Professional Process; Teaching Process; Academic Process; Evaluation Process; Professional Competencies Product; Inclusive Competencies Product; and Teaching & Evaluation Competencies Product of four factors of evaluation i.e., Context, Input, Process, and Product factors, of

B.Ed. programme in case of PTs with respect to university have been computed, compared (table 4.229), and tested against the following null hypothesis:

H_o: There is no significant difference in the dimensionwise impact of B.Ed. programme on pupil teachers with respect to the university.

4.2.1.6.1   Effect of University on the Impact of Mission & Vision Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of mission & vision dimension of B.Ed. programme on pupil teachers is between the grant-in-aid ($M_{SGU} = 13.05$) vs self-financed universities ($M_{PU} = 13.49$), as the value of $t_{(1434)} = 3.16$ is significant at $\alpha = .01$ favouring self-financed universities (table 4.229). Therefore, the higher mean score of the impact of mission & vision dimension of B.Ed. programme for pupil teachers of private universities indicates that private universities have significantly more effect than state government universities on the impact of mission & vision dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the state government universities vs private universities.

Hence, the type of university has a significant effect on the impact of the mission & vision dimension of B.Ed. programme on pupil teachers.

4.2.1.6.2   Effect of University on the Impact of Programme Objectives Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of programme objectives dimension of B.Ed. programme on pupil teachers is between the grant-in-aid ($M_{SGU} = 12.78$) vs self-financed universities ($M_{PU} = 13.43$), as the value of $t_{(1434)} = 4.34$ is significant at $\alpha = .01$ favouring self-financed universities (table 4.229). Therefore, the higher mean score of the impact of programme objectives dimension of B.Ed. programme for pupil teachers of private universities indicates that private universities have significantly more effect than state government universities on the impact of programme objectives dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the state government universities vs private universities.

Hence, the type of university has a significant effect on the impact of programme objectives dimension of B.Ed. programme on pupil teachers.

4.2.1.6.3   Effect of University on the Impact of Academic Input Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of academic input dimension of B.Ed. programme on pupil teachers is between the grant-in-aid (M_{SGU} = 9.31) vs self-financed universities (M_{PU} = 9.80), as the value of t $_{(1434)}$ = 3.69 is significant at α = .01 favouring self-financed universities (table 4.229). Therefore, the higher mean score of the impact of academic input dimension of B.Ed. programme for pupil teachers of private universities indicates that private universities have significantly more effect than state government universities on the impact of academic input dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the state government universities vs private universities.

Hence, type of university has a significant effect on the impact of the academic input dimension of B.Ed. programme on pupil teachers.

4.2.1.6.4   Effect of University on the Impact of Resource Input Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of resource input dimension of B.Ed. programme on pupil teachers is between the grant-in-aid (M_{SGU} = 9.24) vs self-financed universities (M_{PU} = 9.83), as the value of t $_{(1434)}$ = 4.62 is significant at α = .01 favouring self-financed universities (table 4.229). Therefore, the higher mean score of the impact of resource input dimension of B.Ed. programme for pupil teachers of private universities indicates that private universities have significantly more effect than state government universities on the impact of resource input dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the state government universities vs private universities.

Hence, type of university has a significant effect on the impact of resource input dimension of B.Ed. programme on pupil teachers.

4.2.1.6.5   Effect of University on the Impact of Training Input Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of training input dimension of B.Ed. programme on pupil teachers is between the grant-in-aid (M_{SGU} = 18.85) vs self-financed universities (M_{PU} = 19.65), as the value of t $_{(1434)}$ = 4.16 is significant at α = .01 favouring self-financed universities (table 4.229). Therefore, the higher mean score of the impact of training input dimension of B.Ed. programme for pupil teachers of private universities indicates that private universities have significantly more effect than state government universities on the impact of training input dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the state government universities vs private universities.

Hence, type of university has a significant effect on the impact of training input dimension of B.Ed. programme on pupil teachers.

4.2.1.6.6   Effect of University on the Impact of Professional Input Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of professional input dimension of B.Ed. programme on pupil teachers is between the grant-in-aid (M_{SGU} = 6.19) vs self-financed universities (M_{PU} = 6.58), as the value of t $_{(1434)}$ = 3.82 is significant at α = .01 favouring self-financed universities (table 4.229). Therefore, the higher mean score of the impact of professional input dimension of B.Ed. programme for pupil teachers of private universities indicates that private universities have significantly more effect than state government universities on the impact of professional input dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the state government universities vs private universities.

Hence, the type of university has a significant effect on the impact of the professional input dimension of B.Ed. programme on pupil teachers.

4.2.1.6.7   **Effect of University on the Impact of Curriculum Transaction Process Dimension of B.Ed. Programme on Pupil Teachers**

The comparison of means on the impact of curriculum transaction process dimension of B.Ed. programme on pupil teachers is between the grant-in-aid ($M_{SGU} = 22.00$) vs self-financed universities ($M_{PU} = 23.07$), as the value of $t_{(1434)} = 3.93$ is significant at $\alpha = .01$ favouring self-financed universities (table 4.229). Therefore, the higher mean score of the impact of curriculum transaction process dimension of B.Ed. programme for pupil teachers of private universities indicates that private universities have significantly more effect than state government universities on the impact of curriculum transaction process dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the state government universities vs private universities.

Hence, type of university has a significant effect on the impact of curriculum transaction process dimension of B.Ed. programme on pupil teachers.

4.2.1.6.8   **Effect of University on the Impact of Professional Process Dimension of B.Ed. Programme on Pupil Teachers**

The comparison of means on the impact of professional process dimension of B.Ed. programme on pupil teachers is between the grant-in-aid ($M_{SGU} = 12.20$) vs self-financed universities ($M_{PU} = 13.01$), as the value of $t_{(1434)} = 5.17$ is significant at $\alpha = .01$ favouring self-financed universities (table 4.229). Therefore, the higher mean score of the impact of professional process dimension of B.Ed. programme for pupil teachers of private universities indicates that private universities have significantly more effect than state government universities on the impact of professional process dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the state government universities vs private universities.

Hence, the type of university has a significant effect on the impact of the professional process dimension of B.Ed. programme on pupil teachers.

4.2.1.6.9   Effect of University on the Impact of Teaching Process Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of teaching process dimension of B.Ed. programme on pupil teachers is between the grant-in-aid ($M_{SGU} = 8.88$) vs self-financed universities ($M_{PU} = 9.75$), as the value of t $_{(1434)} = 6.23$ is significant at $\alpha = .01$ favouring self-financed universities (table 4.229). Therefore, the higher mean score of the impact of teaching process dimension of B.Ed. programme for pupil teachers of private universities indicates that private universities have significantly more effect than state government universities on the impact of teaching process dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the state government universities vs private universities.

Hence, type of university has a significant effect on the impact of the teaching process dimension of B.Ed. programme on pupil teachers.

4.2.1.6.10   Effect of University on the Impact of Academic Process Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of academic process dimension of B.Ed. programme on pupil teachers is between the grant-in-aid ($M_{SGU} = 6.00$) vs self-financed universities ($M_{PU} = 6.36$), as the value of t $_{(1434)} = 3.46$ is significant at $\alpha = .01$ favouring self-financed universities (table 4.229). Therefore, the higher mean score of the impact of academic process dimension of B.Ed. programme for pupil teachers of private universities indicates that private universities have significantly more effect than state government universities on the impact of academic process dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the state government universities vs private universities.

Hence, the type of university has a significant effect on the impact of the academic process dimension of B.Ed. programme on pupil teachers.

4.2.1.6.11 Effect of University on the Impact of Evaluation Process Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of evaluation process dimension of B.Ed. programme on pupil teachers is between the grant-in-aid (M_{SGU} = 9.09) vs self-financed universities (M_{PU} = 9.65), as the value of t $_{(1434)}$ = 5.02 is significant at α = .01 favouring self-financed universities (table 4.229). Therefore, the higher mean score of the impact of evaluation process dimension of B.Ed. programme for pupil teachers of private universities indicates that private universities have significantly more effect than state government universities impact of evaluation process dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the state government universities vs private universities.

Hence, the type of university has a significant effect on the impact of the evaluation process dimension of B.Ed. programme on pupil teachers.

4.2.1.6.12 Effect of University on the Impact of Professional Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of professional competencies product dimension of B.Ed. programme on pupil teachers is between the grant-in-aid (M_{SGU} = 25.59) vs self-financed universities (M_{PU} = 26.81), as the value of t $_{(1434)}$ = 4.94 is significant at α = .01 favouring self-financed universities (table 4.229). Therefore, the higher mean score of the impact of professional competencies product dimension of B.Ed. programme for pupil teachers of private universities indicates that private universities have significantly more effect than state government universities on the impact of professional competencies product dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the state government universities vs private universities.

Hence, type of university has a significant effect on the impact of professional competencies product dimension of B.Ed. programme on pupil teachers.

4.2.1.6.13   Effect of University on the Impact of Inclusive Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of inclusive competencies product dimension of B.Ed. programme on pupil teachers is between the grant-in-aid (M_{SGU} = 6.43) vs self-financed universities (M_{PU} = 6.69), as the value of t $_{(1434)}$ = 2.83 is significant at α = .01 favouring self-financed universities (table 4.229). Therefore, the higher mean score of the impact of inclusive competencies product dimension of B.Ed. programme for pupil teachers of private universities indicates that private universities have significantly more effect than state government universities on the impact of inclusive competencies product dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the state government universities vs private universities.

Hence, type of university has a significant effect on the impact of ICPr dimension of B.Ed. programme on pupil teachers.

4.2.1.6.14   Effect of University on the Impact of Teaching Evaluation Competencies Product Dimension of B.Ed. Programme on Pupil Teachers

The comparison of means on the impact of teaching & evaluation competencies product dimension of B.Ed. programme on pupil teachers is between the grant-in-aid (M_{SGU} = 19.13) vs self-financed universities (M_{PU} = 20.01), as the value of t $_{(1434)}$ = 3.79 is significant at α = .01 favouring self-financed universities (table 4.229). Therefore, the higher mean score of the impact of teaching & evaluation competencies product dimension of B.Ed. programme for pupil teachers of private universities indicates that private universities have significantly more effect than state government universities on the impact of teaching & evaluation competencies product dimension of B.Ed. programme on pupil teachers. Thus, H_o stands not accepted for pupil teachers of the state government universities vs private universities.

Hence, type of university has a significant effect on the impact of teaching & evaluation competencies product dimension of B.Ed. programme on pupil teachers

4.2.1.7   EFFECT OF STATE, UNIVERSITY, AND TYPE OF INSTITUTION ON THE STATEMENTWISE IMPACT OF B.ED. PROGRAMME ON PUPIL TEACHERS

The objective was to study the statementwise impact of B.Ed. programme on pupil teachers with respect to state, university, and type of institution. After administering ESIBP; χ^2 test was applied to study the significance of differences in the observed and expected frequencies corresponding to statementswise impact of B.Ed. programme on pupil teachers with respect to state, universities, and type of institution separately.

4.2.1.7.1   Effect of State on the Statementwise Impact of B.Ed. Programme on Pupil Teachers

To study the statementwise impact of B.Ed. programme on pupil teachers with respect to state; χ^2 test was applied on the data in frequencies obtained by counting the number of participant pupil teachers who opted the same option on ESIBP, with respect to three levels of the states i.e., the state of Punjab (PB), Himachal Pradesh (HP) and Haryana (HR) and the results have been presented in table 4.230 (Refer Appendix-S-I).

The significance of differences in the observed and expected frequencies corresponding to each statement of the impact of B.Ed. programme in case of pupil teachers with respect to the state have been compared and shown in table 4.230 and tested against the following null hypothesis:

H$_o$:   There is no significant difference in the statementwise impact of B.Ed. programme on pupil teachers with respect to the state.

A Chi-square test of independence for each statement of ESIBP-PTs was applied for computing and comparing the two combinations of observed frequencies (i.e. options 'strongly disagree' and 'disagree' as one combination and options 'agree' and 'strongly agree' as other combination) of pupil teachers of the states Himachal Pradesh, Haryana and Punjab (Refer Appendix-S-I).

Table 4.230
Significance of Differences in the Statementwise IBP on PTs and Order of Impact with respect to State

Sr. No.	Factor	Dimension	Statement	fo (SD + D)			fo (A + SA)			χ^2	Order of Impact
				HP	HR	PB	HP	HR	PB		
1.	Context	Mission & Vision	MV_1	7	16	20	216	556	621	0.13	HR = PB = HP
2.			MV_2	20	50	31	203	522	610	**8.56***	**PB > HR = HP**
3.			MV_3	15	51	41	208	521	600	2.98	HP = HR = PB
4.			MV_4	16	75	62	207	497	579	**7.11***	**HP > PB > HR**
5.	Context	Programme Objectives	PO_1	15	65	48	208	507	593	**7.15***	**HP > PB > HR**
6.			PO_2	17	77	61	206	495	580	**7.64***	**HP > PB > HR**
7.			PO_3	12	65	37	211	507	604	**15.29****	**HP = PB > HR**
8.			PO_4	33	80	104	190	492	537	1.20	HP = HR = PB
9.	Input	Academic Input	AI_1	56	82	84	167	490	557	**19.17****	**PB > HR > HP**
10.			AI_2	49	68	58	174	504	583	**25.90****	**PB > HR > HP**
11.			AI_3	60	92	66	163	480	575	**36.05****	**PB > HR > HP**
12.	Input	Resource Input	RI_1	62	89	68	161	483	573	**37.91****	**PB > HR > HP**
13.			RI_2	114	107	71	109	465	570	**165.33****	**PB > HR > HP**
14.			RI_3	106	77	75	117	495	566	**157.22****	**PB > HR > HP**
15.	Input	Training Input	TI_1	12	70	36	211	502	605	**20.39****	**HP = PB > HR**
16.			TI_2	28	67	71	195	505	570	0.38	PB = HR = HP
17.			TI_3	33	61	49	190	511	592	**9.97****	**PB > HR > HP**
18.			TI_4	70	101	117	153	471	524	**21.22****	**HR > PB > HP**
19.			TI_5	14	77	38	209	495	603	**23.34****	**PB = HP > HR**
20.			TI_6	108	147	173	115	425	468	**44.01****	**HR > PB > HP**
21.	Input	Professional Input	PI_1	82	75	30	141	497	611	**150.43****	**PB > HR > HP**
22.			PI_2	67	77	109	156	495	532	**30.70****	**HR > PB > HP**
23.	Process	Curriculum Transaction Process	CTP_1	10	44	30	213	528	611	5.87	PB = HR = HP
24.			CTP_2	69	82	93	154	490	548	**36.43****	**HR = PB > HP**
25.			CTP_3	126	114	134	97	458	507	**127.30****	**HR > PB > HP**
26.			CTP_4	91	60	100	132	512	541	**105.08****	**HR > PB > HP**
27.			CTP_5	13	68	49	210	504	592	**9.94****	**HP > PB > HR**
28.			CTP_6	37	107	110	186	465	532	0.73	PB = HR = HP
29.			CTP_7	21	64	32	202	508	609	**16.08****	**PB > HP > HR**

$^{**}\alpha = .01$ and $^*\alpha = .05$; χ^2 = Chi-Square; IBP-Impact of B.Ed. programme; PTs-Pupil Teachers; PB-Punjab; HP-Himachal Pradesh; HR-Haryana

Table 4.230

Significance of Differences in the Statementwise IBP on PTs and Order of Impact with respect to State

Sr. No.	Factor	Dimension	Statement	fo (SD + D)			fo (A + SA)			χ^2	Order of Impact
				HP	HR	PB	HP	HR	PB		
30.	Process	Professional Process	PP_1	48	79	93	175	494	548	7.99*	HR = PB > HP
31.			PP_2	55	74	60	168	498	581	33.94**	PB > HR > HP
32.			PP_3	78	98	65	145	474	576	73.16**	PB > HR > HP
33.			PP_4	83	126	148	140	446	493	21.77**	HR > PB > HP
34.	Process	Training Process	TP_1	23	85	57	200	487	584	10.94**	PB > HP > HR
35.			TP_2	93	85	85	130	487	556	97.05**	PB > HR > HP
36.			TP_3	136	163	166	87	409	475	99.59**	PB > HR > HP
37.	Process	Academic Process	AP_1	66	105	47	157	467	594	71.13**	PB > HR > HP
38.			AP_2	93	116	97	130	456	544	70.26**	PB > HR > HP
39.	Process	Evaluation Process	EP_1	53	95	74	170	477	567	19.87**	PB > HR > HP
40.			EP_2	48	84	55	175	488	586	26.80**	PB > HR > HP
41.			EP_3	52	120	129	171	452	512	1.02	PB = HR = HP
42.	Product	Professional Competencies Product	$PCPr_1$	20	48	37	203	524	604	4.13	PB = HR = HP
43.			$PCPr_2$	41	103	90	182	469	551	4.33	PB = HR = HP
44.			$PCPr_3$	20	43	26	203	529	615	9.72**	PB > HR > HP
45.			$PCPr_4$	21	57	34	202	515	607	10.09**	PB > HP = HR
46.			$PCPr_5$	41	84	55	182	488	586	18.52**	PB > HR > HP
47.			$PCPr_6$	39	72	54	184	500	587	14.49**	PB > HR > HP
48.			$PCPr_7$	23	59	39	200	513	602	8.23*	PB > HR = HP
49.			$PCPr_8$	15	54	18	208	518	623	23.57**	PB > HP > HR
50.	Product	Inclusive Competencies Product	$ICPr_1$	14	46	25	209	526	616	9.37**	PB > HP > HR
51.			$ICPr_2$	31	70	58	192	502	583	5.27	PB = HR = HP
52.	Product	Teaching & Evaluation Competencies Product	$TECPr_1$	9	61	39	214	511	602	13.80**	HP > PB > HR
53			$TECPr_2$	80	77	89	143	495	552	65.37**	HR = PB > HP
54.			$TECPr_3$	17	70	35	206	502	606	18.12**	PB > HP > HR
55.			$TECPr_4$	56	74	46	167	498	595	49.90**	PB > HR > HP
56.			$TECPr_5$	34	63	32	189	509	609	26.07**	PB > HR > HP
57.			$TECPr_6$	25	40	28	198	532	613	13.21**	PB > HR > HP

*α = .01 and *α = .05; χ² = Chi-Square; IBP-Impact of B.Ed. programme; PTs-Pupil Teachers; PB-Punjab; HP-Himachal Pradesh; HR-Haryana*

From table 4.230, there is a significant difference in the effect of the state (i.e., three states Himachal Pradesh, Haryana, and Punjab) on the statementwise impact of B.Ed. programme on pupil teachers for forty seven statements (i.e., MV_2; MV_4; PO_1; PO_2; PO_3; AI_1; AI_2; AI_3; RI_1; RI_2; RI_3; TI_1; TI_3; TI_4; TI_5; TI_6; PI_1; PI_2; CTP_2; CTP_3; CTP_4; CTP_5; CTP_7; PP_1; PP_2; PP_3; PP_4; TP_1; TP_2; TP_3; AP_1; AP_2; EP_1; EP_2; $PCPr_3$; $PCPr_4$; $PCPr_5$; $PCPr_6$; $PCPr_7$; $PCPr_8$; $ICPr_1$; $TECPr_1$; $TECPr_2$; $TECPr_3$; $TECPr_4$; $TECPr_5$ and $TECPr_6$) and non significant differences in the effect of the state (i.e., three states Himachal Pradesh, Haryana and Punjab) on the statementwise impact of B.Ed. programme on pupil teachers for ten statements (i.e., MV_1; MV_3; PO_4; TI_2; CTP_1; CTP_6; EP_3; $PCPr_1$; $PCPr_2$; and $ICPr_2$). Thus, H_o stands not accepted for above mentioned forty-seven statements whereas H_o stands accepted for above mentioned ten statements of ESIBP.

4.2.1.7.1.1 Effect of Himachal Pradesh on Statementwise Impact of B.Ed. Programme on Pupil Teachers

The state of Himachal Pradesh has more effect on the impact of B.Ed. programme on pupil teachers for one statement of mission & vision (MV) dimension i.e., MV_4 (Develops inclusive competencies to deal with diverse students) & two statements of programme objectives (PO) dimension i.e., PO_1 (Focuses upon the practical aspects of teaching and learning process), PO_2 (Emphasizes on rigorous teaching internship practice) of Context factor; one statement of curriculum transaction process (CTP) dimension i.e., CTP_5 (Role of teacher, students, and observer is being performed in simulated teaching practice) of Process factor; and one statement of teaching & evaluation competencies product (TECPr) dimension i.e., $TECPr_1$ (Developed my instructional planning skills) of Product factor of B.Ed. programme as compared to the states Haryana and Punjab (table 4.230).

The state of Himachal Pradesh has more effect on the impact of B.Ed. programme on pupil teachers for one statement of programme objectives (PO) dimension i.e., PO_3 (Links school knowledge with community life) of Context factor; two statements of training input (TI) dimension i.e., TI_1 (Teaching skill inputs are given through simulated teaching in B.Ed. programme) and TI_5 (Rigorous teaching internship for 14 weeks is organized in

schools) of Input factor; one statement of curriculum transaction process (CTP) dimension i.e., CTP_7 (Different academic and non-academic activities are being performed during teaching internship) and one statement of Training Process (TP) dimension i.e., TP_1 (Constructive feedback is being given in simulated teaching practice), of Process factor; one statement of professional competencies product (PCPr) dimension i.e., $PCPr_8$ (Developed cooperation and collaboration skills in me); one statement of inclusive competencies product (ICPr) dimension i.e., $ICPr_1$ (Developed skills to deal with the diverse problems of classroom) and onestatement of teaching & evaluation competencies product (TECPr) dimension i.e., $TECPr_3$ (Developed skills to design various assessment strategies) of Product factor of B.Ed. programme as compared to the state Haryana (table 4.230).

4.2.1.7.1.2   Effect of Haryana on Statementwise Impact of B.Ed. Programme on Pupil Teachers

The state of Haryana has more effect on the impact of B.Ed. programme on pupil teachers for the two statements of training input (TI) dimension i.e., TI_4 (Two weeks fieldwork is organized in schools) and TI_6 (Extra inputs for state/center level teacher eligibility test are given); and one statement of Professional Input (PI) dimension i.e., PI_2 (Collaborative partnership with the community is set up in B.Ed. programme) of Input factor; two statements of curriculum transaction process (CTP) dimension i.e., CTP_3 (E-resources are being used in classroom teaching) and CTP_4 (Field-based academic tasks are being conducted); and one statement of professional process (PP) dimension i.e., PP_4 (Inputs are being given for the preparation of Teacher Eligibility Test) of Process factor of B.Ed. programme as compared to the states Himachal Pradesh and Punjab (table 4.230).

The state of Himachal Pradesh has more effect on the impact of B.Ed. programme on pupil teachers for three statements of academic input (AI) dimension i.e., AI_1 (All activities of B.Ed. programme are included in academic calendar), AI_2 (Subject specific field based assignments are allocated in B.Ed. programme) and AI_3 (Diverse projects are assigned in B. Ed. programme); three statements of resource input (RI) dimension i.e.,

RI_1 (Library resources are easily accessible in B.Ed. programme), RI_2 (Modern learning facilitates for teaching are available in B.Ed. programme) and RI_3 (Learning resource centers/labs are available); one statement of training input (TI) dimension i.e., TI_3 (Roles and responsibilities of teaching intern are clearly defined in B.Ed. programme) and one statement of professional input (PI) dimension i.e., PI_1 (Different professional activities are organized for enhancing professional capacities) of Input factor; one statement of curriculum transaction process (CTP) dimension i.e., CTP_2 (Remedial measures are being provided as per needs of the students); three statements of professional process (PP) dimension i.e., PP_1 (Case studies/projects are being conducted as strategies to sensitize about community), PP_2 (Field visits to schools are being organized to develop understanding about school systems) and PP_3 (Professional enhancement activities are being organized); two statements of training process (TP) dimension i.e., TP_2 (Service learning activities are being conducted in collaboration with community) and TP_3 (Community projects are being conducted in collaboration with NGOs); two statements of academic process (AP) dimension i.e., AP_1 (Library resources are being consulted for content enrichment) and AP_2 (Subject specific competencies are being developed by use learning resource centers); two statements of evaluation process (EP) dimension i.e., EP_1 (Evaluation criterion is being discussed in the beginning of lesson) and EP_2 (Various formative assessment strategies are being employed) of Process factor; and three statements of professional competencies product (PCPr) dimension i.e., $PCPr_3$ (Developed my communication competencies), $PCPr_5$ (Enabled me to conduct various non-academic activities), $PCPr_6$ (Developed me holistically); and four statements of teaching & evaluation competencies product (TECPr) dimension i.e., $TECPr_2$ (Developed competencies to use e- learning resourses in teaching learning process), $TECPr_4$ (Developed skills to integrate online resources in teaching learning process), $TECPr_5$ (Developed skills to use latest teaching strategies) and $TECPr_6$ (Developed skills to use various evaluation strategies)of Product factor of B.Ed. programme as compared to the state Himachal Pradesh (table 4.230).

4.2.1.7.1.3 Effect of Punjab on Statementwise Impact of B.Ed. Programme on Pupil Teachers

The state Punjab has more effect on the impact of B.Ed. programme on pupil teachers for one statement of mission & vision (MV) dimension i.e., MV_2 (Emphasizes on the holistic development of prospective teachers) of Context factor; three statements of academic input (AI) dimension i.e., AI_1 (All activities of B.Ed. programme are included in academic calendar), AI_2 (Subject specific field based assignments are allocated in B.Ed. programme) and AI_3 (Diverse projects are assigned in B.Ed. programme); three statements of resource input (RI) dimension i.e., RI_1 (Library resources are easily accessible in B.Ed. programme), RI_2 (Modern learning facilitates for teaching are available in B.Ed. programme) and RI_3 (Learning resource centers/labs are available.); one statement of training input (TI) dimension i.e., TI_3 (Roles and responsibilities of teaching intern are clearly defined in B.Ed. programme) and one statement of professional input (PI) dimension i.e., PI_1 (Different professional activities are organized for enhancing professional capacities) of Input factor; one statement of curriculum transaction process (CTP) dimension i.e., CTP_7 (Different academic and non-academic activities are being performed during teaching internship); two statements of professional process (PP) dimension i.e., PP_2 (Field visits to schools are being organized to develop understanding about school systems) and PP_3 (Professional enhancement activities are being organized); three statements of training process (TP) dimension i.e., TP_1 (Constructive feedback is being given in simulated teaching practice), TP_2 (Service learning activities are being conducted in collaboration with community) and TP_3 (Community projects are being conducted in collaboration with NGOs); two statements of academic process (AP) dimension i.e., AP_1 (Library resources are being consulted for content enrichment) and AP_2 (Subject specific competencies are being developed by use learning resource centers); two statements of evaluation process (EP) dimension i.e., EP_1 (Evaluation criterion is being discussed in the beginning of lesson) and EP_2 (Various formative assessment strategies are being employed) of Process factor; and six statements of professional competencies product (PCPr) dimension i.e., $PCPr_3$ (Developed my

communication competencies), PCPr$_4$ (Enabled me to conduct various academic activities), PCPr$_5$ (Enabled me to conduct various non-academic activities), PCPr$_6$ (Developed me holistically), PCPr$_7$ (Developed social competencies to deal effectively with community) and PCPr$_8$ (Developed cooperation and collaboration skills in me); one statement of inclusive competencies product (ICPr) dimension i.e., ICPr$_1$ (Developed skills to deal with the diverse problems of classroom) and four statements of teaching & evaluation competencies product (TECPr) dimension i.e., TECPr$_3$ (Developed skills to design various assessment strategies), TECPr$_4$ (Developed skills to integrate online resources in teaching learning process), TECPr$_5$ (Developed skills to use latest teaching strategies) and TECPr$_6$ (Developed skills to use various evaluation strategies)of Product factor of B.Ed. programme as compared to the states Himachal Pradesh and Haryana (table 4.230).

The state Punjab has more effect on the impact of B.Ed. programme on pupil teachers for two statements of training input (TI) dimension i.e., TI$_4$ (Two weeks fieldwork is organized in schools) and TI$_6$ (Extra inputs for state/center level teacher eligibility test are given) and one statement of professional input (PI) dimension i.e., PI$_2$ (Collaborative partnership with community is set up in B.Ed. programme) of Input factor; three statements of curriculum transaction process (CTP) dimension i.e., CTP$_2$ (Remedial measures are being provided as per needs of the students) and CTP$_3$ (E-resources are being used in classroom teaching) and CTP$_4$ (Field-based academic tasks are being conducted); two statements of professional process (PP) dimension i.e., PP$_1$ (Case studies/projects are being conducted as strategies to sensitize about community) and PP$_3$ (Professional enhancement activities are being organized); and one statement of teaching & evaluation competencies product (TECPr) dimension i.e., TECPr$_2$ (Developed competencies to use e-learning resources in teaching-learning process) of Product factor of B.Ed. programme as compared to the state Himachal Pradesh (table 4.230).

The state PB has more effect on the impact of B.Ed. programme on pupil teachers for one statement of mission & vision (MV) dimension i.e., MV$_4$ (Develops inclusive competencies to deal with diverse students) &three statement of programme objectives

(PO) dimension i.e., PO_1 (Focuses upon the practical aspects of teaching and learning process), PO_2 (Emphasizes on rigorous teaching internship practice) and PO_3 (Links school knowledge with community life) of Context factor; two statements of training process (TI) dimension i.e., TI_1 (Teaching skill inputs are given through simulated teaching in B.Ed. programme) and TI_5 (Rigorous teaching internship for 14 weeks is organized in schools) of Input factor; one statement of curriculum transaction process (CTP) dimension i.e., CTP_5 (Role of teacher, students and observer is being performed in simulated teaching practice) of Process factor; and one statement of teaching & evaluation competencies product (TECPr) dimension i.e., $TECPr_1$ (Developed my instructional planning skills) of Product factor of B.Ed. programme as compared to the state Haryana (table 4.230).

4.2.1.7.2 Effect of University on the Statementwise Impact of B.Ed. Programme on Pupil Teachers

To study the statementwise impact of B.Ed. programme on pupil teachers with respect to university; χ^2 test was applied on the data in frequencies obtained by counting the number of participant pupil teachers who opted the same option on ESIBP, with respect to two levels of the universities i.e., state government universities (SGU) and private universities (PU) and the results have been presented in table 4.231 (Refer Appendix-S-II).

The significance of differences in the observed and expected frequencies corresponding to each statement of the impact of B.Ed. programme on pupil teachers with respect to university have been compared and shown in table 4.231 and tested against the following null hypothesis:

H_o: There is no significant difference in the statementwise impact of B.Ed. programme on pupil teachers with respect to the university.

A Chi-square test of independence for each statement of ESIBP-PTs was applied for computing and comparing the two combinations of observed frequencies (i.e. options 'strongly disagree' and 'disagree' as one combination and options 'agree' and 'strongly agree' as other combination) of pupil teachers of the state government universities and private universities (Refer Appendix-S-II).

Table 4.231

Significance of Differences in the Statementwise IBP on PTs and Order of Impact with respect to University

Sr. No.	Factor	Dimension	Statement	fo $_{(SD + D)}$		fo $_{(A + SA)}$		χ^2	Order of Impact
				SGU	PU	SGU	PU		
1.	Context	Mission & Vision	MV_1	40	3	1246	147	0.57	SGU = PU
2.			MV_2	97	4	1189	146	**4.88***	**PU > SGU**
3.			MV_3	102	5	1184	145	**4.12***	**PU > SGU**
4.			MV_4	145	8	1141	142	**4.98***	**PU > SGU**
5.	Context	Programme Objectives	PO_1	123	5	1163	145	**6.42****	**PU > SGU**
6.			PO_2	146	9	1140	141	**4.00***	**PU > SGU**
7.			PO_3	108	6	1178	144	**3.56**	**PU > SGU**
8.			PO_4	207	10	1079	140	**9.31****	**PU > SGU**
9.	Input	Academic Input	AI_1	213	9	1073	141	**11.47****	**PU > SGU**
10.			AI_2	168	7	1118	143	**8.85****	**PU > SGU**
11.			AI_3	205	13	1081	137	**5.52****	**PU > SGU**
12.	Input	Resource Input	RI_1	207	12	1079	138	**6.81****	**PU > SGU**
13.			RI_2	281	11	1005	139	**17.48****	**PU > SGU**
14.			RI_3	246	12	1040	138	**11.29****	**PU > SGU**
15.	Input	Training Input	TI_1	114	4	1172	146	**6.84****	**PU > SGU**
16.			TI_2	155	11	1131	139	**2.93***	**PU > SGU**
17.			TI_3	136	7	1150	143	**5.23***	**PU > SGU**
18.			TI_4	273	15	1013	135	**10.56****	**PU > SGU**
19.			TI_5	120	9	1166	141	1.82	**PU > SGU**
20.			TI_6	413	15	873	135	**31.40****	**PU > SGU**
21.	Input	Professional Input	PI_1	180	7	1106	143	**10.32****	**PU > SGU**
22.			PI_2	242	11	1044	139	**12.21****	**PU > SGU**
23.	Process	Curriculum Transaction Process	CTP_1	75	9	1211	141	0.01	SGU = PU
24.			CTP_2	238	6	1048	144	**20.04****	**PU > SGU**
25.			CTP_3	362	12	924	138	**28.31****	**PU > SGU**
26.			CTP_4	242	9	1044	141	**15.30****	**PU > SGU**
27.			CTP_5	123	7	1163	143	**3.91***	**PU > SGU**
28.			CTP_6	239	15	1047	135	**6.80****	**PU > SGU**
29.			CTP_7	109	8	1177	142	1.77	SGU = PU

[**]*α = .01 and* [*]*α = .05; χ² = Chi-Square; IBP-Impact of B.Ed. programme; PTs-Pupil Teachers; SGU-State Government Universities; PU-Private Universities*

Table 4.231

Significance of Differences in the Statementwise IBP on PTs and Order of Impact with respect to University

Sr. No.	Factor	Dimension	Statement	fo (SD + D)		fo (A + SA)		χ^2	Order of Impact
				SGU	PU	SGU	PU		
30.	Process	Professional Process	PP$_1$	202	17	1084	133	1.99	SGU = PU
31.			PP$_2$	176	13	1110	137	**2.96***	**PU > SGU**
32.			PP$_3$	235	6	1051	144	**19.60****	**PU > SGU**
33.			PP$_4$	345	12	941	138	**25.49****	**PU > SGU**
34.	Process	Training Process	TP$_1$	158	7	1128	143	**7.67****	**PU > SGU**
35.			TP$_2$	250	13	1036	137	**10.42****	**PU > SGU**
36.			TP$_3$	442	23	844	127	**22.23****	**PU > SGU**
37.	Process	Academic Process	AP$_1$	206	12	1080	138	**6.71****	**PU > SGU**
38.			AP$_2$	290	16	996	134	**11.31****	**SGU > PU**
39.	Process	Evaluation Process	EP$_1$	207	15	1079	135	**3.82***	**PU > SGU**
40.			EP$_2$	181	6	1105	144	**12.04****	**PU > SGU**
41.			EP$_3$	290	11	996	139	**18.78****	**PU > SGU**
42.	Product	Professional Competencies Product	PCPr$_1$	103	2	1183	148	**8.83****	**PU > SGU**
43.			PCPr$_2$	225	9	1061	141	**13.02****	**PU > SGU**
44.			PCPr$_3$	86	3	1200	147	**5.08***	**PU > SGU**
45.			PCPr$_4$	108	4	1178	146	**6.14****	**PU > SGU**
46.			PCPr$_5$	167	13	1119	137	2.29	SGU = PU
47.			PCPr$_6$	160	5	1126	145	**10.96****	**PU > SGU**
48.			PCPr$_7$	117	4	1169	146	**7.20****	**PU > SGU**
49.			PCPr$_8$	81	6	1205	144	1.25	SGU = PU
50.	Product	Inclusive Competencies Product	ICPr$_1$	81	4	1205	146	**3.18***	**PU > SGU**
51.			ICPr$_2$	154	5	1132	145	**10.19****	**PU > SGU**
52.	Product	Teaching & Evaluation Competencies Product	TECPr$_1$	104	5	1182	145	**4.33***	**PU > SGU**
53			TECPr$_2$	238	8	1048	142	**16.42****	**PU > SGU**
54.			TECPr$_3$	120	2	1166	148	**11.05****	**PU > SGU**
55.			TECPr$_4$	168	8	1118	142	**7.46****	**PU > SGU**
56.			TECPr$_5$	125	4	1161	146	**8.17****	**PU > SGU**
57.			TECPr$_6$	85	8	1201	142	0.36	SGU = PU

$^{**}\alpha = .01$ and $^*\alpha = .05$; χ^2 = Chi-Square; IBP-Impact of B.Ed. programme; PTs-Pupil Teachers; SGU-State Government Universities; PU-Private Universities

From table 4.231, there is significant differences in the effect of the university (i.e., state government universities and private universities) on the statementwise impact of B.Ed. programme on pupil teachers for fifty statements (i.e., MV_2; MV_3; MV_4; PO_1; PO_2; PO_3; PO_4; AI_1; AI_2; AI_3; RI_1; RI_2; RI_3; TI_1; TI_2; TI_3; TI_4; TI_5; TI_6; PI_1; PI_2; CTP_2; CTP_3; CTP_4; CTP_5; CTP_6; PP_2; PP_3; PP_4; TP_1; TP_2; TP_3; AP_1; AP_2; EP_1; EP_2; EP_3; $PCPr_1$; $PCPr_2$; $PCPr_3$; $PCPr_4$; $PCPr_6$; $PCPr_7$; $ICPr_1$; $ICPr_2$; $TECPr_1$; $TECPr_2$; $TECPr_3$; $TECPr_4$ and $TECPr_5$) and non significant differences in the effect of the state (i.e., three states Himachal Pradesh, Haryana and Punjab) on the statementwise impact of B.Ed. programme on pupil teachers for seven statements (i.e., MV_1; CTP_1; CTP_7; PP_1; $PCPr_5$; $PCPr_8$ and $TECPr_6$). Thus, H_o stands not accepted for above mentioned fifty statements whereas H_o stands accepted for above mentioned seven statements of ESIBP.

4.2.1.7.2.1 Effect of State Government Universities on Statementwise Impact of B.Ed. Programme on Pupil Teachers

The state government universities have more effect on the impact of B.Ed. programme on pupil teachers for one statement of academic process (AP) dimension i.e., AP_2 (Subject-specific competencies are being developed by use learning resource centers) of Process factor of B.Ed. programme (table 4.231).

4.2.1.7.2.2 Effect of Private Universities on Statementwise Impact of B.Ed. Programme on Pupil Teachers

The private universities have more effect on the impact of B.Ed. programme on pupil teachers for three statements of mission & vision (MV) dimension i.e., MV_2 (Emphasizes on the holistic development of prospective teachers), MV_3 (Develops skills to deal with the diverse problems of classroom) and MV_4 (Develops inclusive competencies to deal with diverse students) & four statements of programme objectives (PO) dimension i.e., PO_1 (Focuses upon the practical aspects of teaching and learning process), PO_2 (Emphasizes on rigorous teaching internship practice), PO_3 (Links school knowledge with community life) and PO_4 (Increases employment opportunities for prospective teachers) of Context factor; three statements of academic input (AI) dimension i.e., AI_1 (All activities of B.Ed. programme are included in academic calendar), AI_2 (Subject specific

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field based assignments are allocated in B.Ed. programme) and AI_3 (Diverse projects are assigned in B.Ed.programme); three statements of resource input (RI) dimension i.e., RI_1 (Library resources are easily accessible in B.Ed. programme), RI_2 (Modern learning facilitates for teaching are available in B.Ed. programme) and RI_3 (Learning resource centers/labs are available); six statements of training input (TI) dimension i.e., TI_1 (Teaching skill inputs are given through simulated teaching in B.Ed. programme), TI_2 (Teaching internship handbook/guidelines are provided in B.Ed. programme), TI_3 (Roles and responsibilities of teaching intern are clearly defined in B.Ed. programme), TI_4 (Two weeks field work is organized in schools), TI_5 (Rigorous teaching internship for 14 weeks is organized in schools) and TI_6 (Extra inputs for state/center level teacher eligibility test are given) & two statements of professional input (PI) dimension i.e., PI_1 (Different professional activities are organized for enhancing professional capacities) and PI_2 (Collaborative partnership with community is set up in B.Ed. programme) of Input factor; five statements of curriculum transaction process (CTP) dimension i.e., CTP_2 (Remedial measures are being provided as per needs of the students), CTP_3 (E-resources are being used in classroom teaching), CTP_4 (Field based academic tasks are being conducted), CTP_5 (Role of teacher, students and observer is being performed in simulated teaching practice) and CTP_6 (Classroom teaching evaluation is being done daily in teaching practice); three statements of professional process (PP) dimension i.e., PP_2 (Field visits to schools are being organized to develop understanding about school systems), PP_3 (Professional enhancement activities are being organized) and PP_4 (Inputs are being given for the preparation of Teacher Eligibility Test); three statements of training process (TP) dimension i.e., TP_1 (Constructive feedback is being given in simulated teaching practice), TP_2 (Service learning activities are being conducted in collaboration with community) and TP_3 (Community projects are being conducted in collaboration with NGOs); one statements of academic process (AP) dimension i.e., AP_1 (Library resources are being consulted for content enrichment) and three statements of evaluation process (EP) dimension i.e., EP_1 (Evaluation criterion is being discussed in the beginning of lesson), EP_2 (Various formative assessment strategies are being employed) and EP_3 (Assessment

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is being done on the basis of pre-decided rubrics) of Process factor; six statements of professional competencies product (PCPr) dimension i.e., $PCPr_1$ (Transformed me into a competent professional), $PCPr_2$ (Enabled me to qualify Teacher Eligibility Test), $PCPr_3$ (Developed my communication competencies), $PCPr_4$ (Enabled me to conduct various academic activities), $PCPr_6$ (Developed me holistically) and $PCPr_7$ (Developed social competencies to deal effectively with community); two statements of inclusive competencies product (ICPr) dimension i.e., $ICPr_1$ (Developed skills to deal with the diverse problems of classroom) and $ICPr_2$ (Developed inclusive competencies to deal with diverse students) and five statements of teaching & evaluation competencies product (TECPr) dimension i.e., $TECPr_1$ (Developed my instructional planning skills), $TECPr_2$ (Developed competencies to use e- learning resourses in teaching learning process), $TECPr_3$ (Developed skills to design various assessment strategies), $TECPr_4$ (Developed skills to integrate online resources in teaching learning process) and $TECPr_5$ (Developed skills to use latest teaching strategies) of Product factor of B.Ed. programme (table 4.231).

4.2.1.7.3   **Effect of Type of Institution on the Statementwise Impact of B.Ed. Programme on Pupil Teachers**

To study the statementwise impact of B.Ed. programme on pupil teachers with respect to the type of institution; χ^2 test was applied on the data in frequencies obtained by counting the number of participant pupil teachers who opted the same option on ESIBP, with respect to three levels of the type of institution i.e., the Government Colleges of Education (GCE), Grant-In-Aid Colleges of Education (GIACE) and Self-Financed Colleges of Education (SFCE)and the results have been presented in table 4.232 (Refer appendix-S-III).

The significance of differences in the observed and expected frequencies corresponding to each statement of the impact of B.Ed. programme in case of pupil teachers with respect to the type of institution has been compared and shown in table 4.232 and tested against the following null hypothesis:

Table 4.232
Significance of Differences in the Statementwise IBP on PTs and Order of Impact with respect to Type of Institution

Sr. No.	Factor	Dimension	Statement	fo (SD + D)			fo (A + SA)			χ^2	Order of Impact
				GIACE	GCE	SFCE	GIACE	GCE	SFCE		
1.	Context	Mission & Vision	MV$_1$	4	18	21	390	441	562	7.41*	GIACE>SFCE=GCE
2.			MV$_2$	15	29	57	379	430	526	13.34**	GIACE>GCE>SFCE
3.			MV$_3$	23	33	51	371	426	532	2.95	GCE=GICE=SFCE
4.			MV$_4$	35	50	68	359	409	515	1.95	GCE=GICE=SFCE
5.	Context	Programme Objectives	PO$_1$	26	39	63	368	420	520	5.27*	GIACE>GCE>SFCE
6.			PO$_2$	41	48	66	353	411	517	0.28	GCE=GICE=SFCE
7.			PO$_3$	22	42	50	372	417	533	4.24	GCE=GICE=SFCE
8.			PO$_4$	48	103	66	346	356	517	28.38**	SFCE>GIACE>GCE
9.	Input	Academic Input	AI$_1$	60	85	77	334	374	506	5.56*	SFCE>GIACE>GCE
10.			AI$_2$	36	66	73	358	393	510	5.55*	GIACE>SFCE>GCE
11.			AI$_3$	44	91	83	350	368	500	13.02**	GIACE>SFCE>GCE
12.	Input	Resource Input	RI$_1$	42	89	88	352	370	495	12.52**	GIACE>SFCE>GCE
13.			RI$_2$	47	105	140	347	354	443	23.89**	GIACE>GCE>SFCE
14.			RI$_3$	21	111	126	373	348	457	59.98**	GIACE>SFCE>GCE
15.	Input	Training Input	TI$_1$	27	39	52	367	420	531	1.40	GCE=GICE=SFCE
16.			TI$_2$	37	60	69	357	399	514	2.88	GCE=GICE=SFCE
17.			TI$_3$	26	44	73	368	415	510	9.30**	GIACE>GCE>SFCE
18.			TI$_4$	75	79	134	319	380	449	5.69*	GCE>GIACE>SFCE
19.			TI$_5$	30	39	60	364	420	523	2.26	GCE=GICE=SFCE
20.			TI$_6$	96	180	152	298	279	431	28.88**	GIACE>SFCE>GCE
21.	Input	Professional Input	PI$_1$	25	72	90	369	387	493	21.39**	GIACE>SFCE=GCE
22.			PI$_2$	46	99	108	348	360	475	14.85**	GIACE>SFCE>GCE
23.	Process	Curriculum Transaction Process	CTP$_1$	13	28	43	381	431	540	7.17*	GIACE>GCE>SFCE
24.			CTP$_2$	57	99	88	337	360	495	10.09**	GIACE=SFCE>GCE
25.			CTP$_3$	78	128	168	316	331	415	11.12**	GIACE>GCE>SFCE
26.			CTP$_4$	52	112	87	342	347	496	22.89**	GIACE>SFCE>GCE
27.			CTP$_5$	26	38	66	368	421	517	6.86*	GIACE>GCE>SFCE
28.			CTP$_6$	54	83	117	340	376	466	6.61*	GIACE>GCE>SFCE
29.			CTP$_7$	27	38	52	367	421	531	1.36	GCE=GICE=SFCE

$^{**}α = .01$ and $^*α = .05$; χ^2 = Chi-Square; IBP-Impact of B.Ed. Programme; PTs-Pupil Teachers

Table 4.232

Significance of Differences in the Statementwise IBP on PTs and Order of Impact with respect to Type of Institution

Sr. No.	Factor	Dimension	Statement	fo (SD + D)			fo (A + SA)			χ^2	Order of Impact
				GIACE	GCE	SFCE	GIACE	GCE	SFCE		
30.	Process	Professional Process	PP$_1$	55	84	80	339	375	503	4.87*	SFCE=GIACE>GCE
31.			PP$_2$	37	61	91	357	398	492	7.96**	GIACE>GCE>SFCE
32.			PP$_3$	59	95	87	335	364	496	7.40*	SFCE=GIACE>GCE
33.			PP$_4$	68	161	128	326	298	455	40.47**	GIACE>SFCE>GCE
34.	Process	Training Process	TP$_1$	49	61	55	345	398	528	4.23	GCE=GICE=SFCE
35.			TP$_2$	55	106	102	339	353	481	12.26**	GIACE>SFCE>GCE
36.			TP$_3$	81	212	172	313	247	411	67.32**	GIACE>SFCE>GCE
37.	Process	Academic Process	AP$_1$	39	82	97	355	377	486	12.07**	GIACE>SFCE>GCE
38.			AP$_2$	59	112	135	335	347	448	13.23**	GIACE>SFCE>GCE
39.	Process	Evaluation Process	EP$_1$	52	75	95	342	384	488	2.13	GCE=GICE=SFCE
40.			EP$_2$	33	67	87	361	392	496	10.37**	GIACE>GCE=SFCE
41.			EP$_3$	73	116	112	321	343	471	7.64*	GIACE=SFCE>GCE
42.	Product	Professional Competencies Product	PCPr$_1$	25	30	50	369	429	533	2.33	GCE=GICE=SFCE
43.			PCPr$_2$	54	85	95	340	374	488	3.60	GCE=GICE=SFCE
44.			PCPr$_3$	16	20	53	378	439	530	14.16**	GIACE=GCE>SFCE
45.			PCPr$_4$	19	38	55	375	421	528	7.17*	GIACE>GCE>SFCE
46.			PCPr$_5$	33	63	84	361	396	499	8.68**	GIACE>GCE=SFCE
47.			PCPr$_6$	33	62	70	361	397	513	5.75*	GIACE>SFCE>GCE
48.			PCPr$_7$	22	38	61	372	421	522	7.27*	GIACE>GCE>SFCE
49.			PCPr$_8$	15	15	57	379	444	526	23.95**	GCE=GIACE>SFCE
50.	Product	Inclusive Competencies Product	ICPr$_1$	10	26	49	384	433	534	14.61**	GIACE>GCE>SFCE
51.			ICPr$_2$	33	51	75	361	408	508	4.81*	GIACE>GCE>SFCE
52.	Product	Teaching & Evaluation Competencies Product	TECPr$_1$	25	25	59	369	434	524	9.20**	GCE>GIACE>SFCE
53			TECPr$_2$	51	91	104	343	368	479	7.42*	GIACE>SFCE>GCE
54.			TECPr$_3$	23	43	56	371	416	527	4.95*	GIACE>GCE=SFCE
55.			TECPr$_4$	28	65	83	366	394	500	13.39**	GIACE>GCE=SFCE
56.			TECPr$_5$	26	40	63	368	419	520	5.15*	GIACE>GCE>SFCE
57.			TECPr$_6$	27	17	49	367	442	534	9.50**	GCE>GIACE>SFCE

$^{**}\alpha = .01$ *and* $^*\alpha = .05$; χ^2 = *Chi-Square; IBP-Impact of B.Ed. Programme; PTs-Pupil Teachers*

H$_o$:   There is no significant difference in the statementwise impact of B.Ed. programme on pupil teachers with respect to the type of institution.

A Chi-square test of independence for each statement of ESIBP-PTs was applied for computing and comparing the two combinations of observed frequencies (i.e. options 'strongly disagree' and 'disagree' as one combination and options 'agree' and 'strongly agree' as other combination) of pupil teachers of the states Himachal Pradesh, Haryana and Punjab (Refer Appendix-S-III).

From table 4.232, there is a significant difference in the effect of type of institution (i.e., government colleges of education (GCE), grant-in-aid colleges of education (GIACE), and self-financed colleges of education (SFCE)) on the statementwise impact of B.Ed. programme on pupil teachers for forty five statements (i.e., MV_1; MV_2; PO_1; PO_4; AI_1; AI_2; AI_3; RI_1; RI_2; RI_3; TI_3; TI_4; TI_6; PI_1; PI_2; CTP_1; CTP_2; CTP_3; CTP_4; CTP_5; CTP_6;PP_1; PP_2; PP_3; PP_4; TP_2; TP_3; AP_1; AP_2; EP_2; EP_3; $PCPr_3$; $PCPr_4$; $PCPr_5$; $PCPr_6$; $PCPr_7$;$PCPr_8$; $ICPr_1$; $ICPr_2$; $TECPr_1$; $TECPr_2$; $TECPr_3$; $TECPr_4$; $TECPr_5$ and $TECPr_6$) and non significant differences in the effect of the type of institution (i.e., the government, grant-in-aid and self-financed colleges of education) on the statementwise impact of B.Ed. programme on pupil teachers for twelve statements (i.e., MV_3; MV_4; PO_2; PO_3; TI_1; TI_2; TI_5; CTP_7; TP_1; EP_1; $PCPr_1$ and $PCPr_2$). Thus, H$_o$ stands not accepted for above mentioned forty-five statements whereas H$_o$ stands accepted for above mentioned twelve statements of ESIBP.

4.2.1.7.3.1   Effect of Government Colleges of Education on Statementwise Impact of B.Ed. Programme on Pupil Teachers

The government colleges of education have more effect on the impact of B.Ed. programme on pupil teachers for one statement of training input (TI) dimension i.e., TI_4 (Two weeks fieldwork is organized in schools) of Input factor; and two statements of teaching & evaluation competencies product (TECPr) dimension i.e., $TECPr_1$ (Developed my instructional planning skills) and $TECPr_6$ (Developed skills to use various evaluation strategies) of Product factor of B.Ed. programme as compared to grant-in-aid colleges of education and self-financed colleges of education (table 4.232).

The government colleges of education have more effect on the impact of B.Ed. programme on pupil teachers for one statement of mission & vision (MV) dimension i.e., MV_2 (Emphasizes on the holistic development of prospective teachers) and one statement of programme objectives (PO) dimension i.e., PO_1 (Focuses upon the practical aspects of teaching and learning process) of Context factor; one statement of resource input (RI) dimension i.e., RI_2 (Modern learning facilitates for teaching are available in B.Ed. programme); and one statement of training process (TI) dimension i.e., TI_3 (Roles and responsibilities of teaching intern are clearly defined in B.Ed. programme) of Input factor; four statements of curriculum transaction process (CTP) dimension i.e., CTP_1 (Real life experiences are being shared in the class room), CTP_3 (E-resources are being used in classroom teaching), CTP_5 (Role of teacher, students and observer is being performed in simulated teaching practice) and CTP_6 (Classroom teaching evaluation is being done daily in teaching practice); and one statement of professional process (PP) dimension i.e., PP_2 (Field visits to schools are being organized to develop understanding about school systems) of Process factor; four statements of professional competencies product (PCPr) dimension i.e., $PCPr_3$ (Developed my communication competencies), $PCPr_4$ (Enabled me to conduct various academic activities), $PCPr_7$ (Developed social competencies to deal effectively with community) and $PCPr_8$ (Developed cooperation and collaboration skills in me); two statements of inclusive competencies product ICPr dimension i.e., $ICPr_1$ (Developed skills to deal with the diverse problems of classroom) and $ICPr_2$ (Developed inclusive competencies to deal with diverse students) and one statement of teaching & evaluation competencies product (TECPr) dimension i.e., $TECPr_5$ (Developed skills to use latest teaching strategies) of Product factor of B.Ed. programme as compared to self-financed colleges of education (table 4.232).

4.2.1.7.3.2 Effect of Grant-In-Aid Colleges of Education on Statementwise Impact of B.Ed. Programme on Pupil Teachers

The grant-in-aid colleges of education have more effect on the impact of B.Ed. programme on pupil teachers for two statements of mission & vision (MV) dimension i.e., MV_1 (Develops prospective teachers into a competent professionals) and MV_2

(Emphasizes on the holistic development of prospective teachers); & one statement of programme objectives (PO) dimension i.e., PO_1 (Focuses upon the practical aspects of teaching and learning process) of Context factor; two statements of academic input (AI) dimension i.e., AI_2 (Subject specific field based assignments are allocated in B.Ed. programme) and AI_3 (Diverse projects are assigned in B. Ed. programme); three statements of resource input (RI) dimension i.e., RI_1 (Library resources are easily accessible in B.Ed. programme), RI_2 (Modern learning facilitates for teaching are available in B.Ed. programme) and RI_3 (Learning resource centers/labs are available); two statements of training input (TI) dimension i.e., TI_3 (Roles and responsibilities of teaching intern are clearly defined in B.Ed. programme) and TI_6 (Extra inputs for state/center level teacher eligibility test are given); and two statements of professional input (PI) dimension i.e., PI_1 (Different professional activities are organized for enhancing professional capacities) and PI_2 (Collaborative partnership with community is set up in B.Ed. programme) of Input factor; five statements of curriculum transaction process (CTP) dimension i.e., CTP_1 (Real life experiences are being shared in the class room), CTP_3 (E-resources are being used in classroom teaching), CTP_4 (Field based academic tasks are being conducted), CTP_5 (Role of teacher, students and observer is being performed in simulated teaching practice) and CTP_6 (Classroom teaching evaluation is being done daily in teaching practice); two statements of professional process (PP) dimension i.e., PP_2 (Field visits to schools are being organized to develop understanding about school systems) and PP_4 (Inputs are being given for the preparation of Teacher Eligibility Test); two statements of training process (TP) dimension i.e., TP_2 (Service learning activities are being conducted in collaboration with community) and TP_3 (Community projects are being conducted in collaboration with NGOs); two statements of academic process (AP) dimension i.e., AP_1 (Library resources are being consulted for content enrichment) and AP_2 (Subject specific competencies are being developed by use learning resource centers); and one statement of evaluation process EP dimension i.e., EP_2 (Various formative assessment strategies are being employed) of Process factor; and four statements of professional competencies product (PCPr) dimension i.e., $PCPr_4$ (Enabled

me to conduct various academic activities), $PCPr_5$ (Enabled me to conduct various non-academic activities), $PCPr_6$ (Developed me holistically) and $PCPr_7$ (Developed social competencies to deal effectively with community); two statements of inclusive competencies product (ICPr) dimension i.e., $ICPr_1$ (Developed skills to deal with the diverse problems of classroom) and $ICPr_2$ (Developed inclusive competencies to deal with diverse students) and four statements of teaching & evaluation competencies product (TECPr) dimension i.e., $TECPr_2$ (Developed competencies to use e-learning resourses in teaching learning process), $TECPr_3$ (Developed skills to design various assessment strategies), $TECPr_4$ (Developed skills to integrate online resources in teaching learning process) and $TECPr_5$ (Developed skills to use latest teaching strategies) of Product factor of B.Ed. programme as compared to government colleges of education and self-financed colleges of education (table 4.232).

The grant-in-aid colleges of education have more effect on the impact of B.Ed. programme on pupil teachers for one statement of programme objectives (PO) dimension i.e., PO_4 (Increases employment opportunities for prospective teachers) of Context factor; one statement of academic input (AI) dimension i.e., AI_1 (All activities of B.Ed. programme are included in the academic calendar); one statement of curriculum transaction process (CTP) dimension i.e., CTP_2 (Remedial measures are being provided as per needs of the students); two statements of the professional process (PP) dimension i.e., PP_1 (Case studies/projects are being conducted as strategies to sensitize about the community) and PP_3 (Professional enhancement activities are being organized); and one statement of evaluation process (EP) dimension i.e., EP_3 (Assessment is being done on the basis of pre-decided rubrics) of Process factor of B.Ed. programme as compared to government colleges of education (table 4.232).

The grant-in-aid colleges of education have more effect on the impact of B.Ed. programme on pupil teachers for one statement of training input (TI) dimension i.e., TI_4 (Two weeks fieldwork is organized in schools) of Input factor; two statements of professional competencies product (PCPr) dimension i.e., $PCPr_3$ (Developed my communication competencies) and $PCPr_8$ (Developed cooperation and collaboration

skills in me); and two statements of teaching & evaluation competencies product (TECPr) dimension i.e., $TECPr_1$ (Developed my instructional planning skills) and $TECPr_6$ (Developed skills to use various evaluation strategies) of Product factor of B.Ed. programme as compared to self-financed colleges of education (table 4.232).

4.2.1.7.3.3   Effect of Self-Financed Colleges of Education on Statementwise Impact of B.Ed. Programme on Pupil Teachers

The self-financed colleges of education have more effect on the impact of B.Ed. programme on pupil teachers for one statement of programme objectives (PO) dimension i.e., PO_4 (Increases employment opportunities for prospective teachers) of Context factor; and one statement of academic input (AI) dimension i.e., AI_1 (All activities of B.Ed. programme are included in the academic calendar) of Process factor of B.Ed. programme as compared to government colleges of education and grant-in-aid colleges of education (table 4.232).

The self-financed colleges of education have more effect on the impact of B.Ed. programme on pupil teachers for two statement of academic input (AI) dimension i.e., AI_2 (Subject specific field based assignments are allocated in B.Ed. programme) and AI_3 (Diverse projects are assigned in B. Ed. programme); two statements of resource input (RI) dimension i.e., RI_1 (Library resources are easily accessible in B.Ed. programme) and RI_3 (Learning resource centers/labs are available); one statement of training input (TI) dimension i.e., TI_6 (Extra inputs for state/center level teacher eligibility test are given); and one statement of professional input (PI) dimension i.e., PI_2 (Collaborative partnership with community is set up in B.Ed. programme) of Input factor; two statements of curriculum transaction process (CTP) dimension i.e., CTP_2 (Remedial measures are being provided as per needs of the students) and CTP_4 (Field based academic tasks are being conducted); three statements of professional process (PP) dimension i.e., PP_1 (Case studies/projects are being conducted as strategies to sensitize about community); PP_3 (Professional enhancement activities are being organized); and PP_4 (Inputs are being given for the preparation of Teacher Eligibility Test); two statements of training process (TP) dimension i.e., TP_2 (Service learning activities are being conducted in collaboration

with community) and TP_3 (Community projects are being conducted in collaboration with NGOs); two statements of academic process (AP) dimension i.e., AP_1 (Library resources are being consulted for content enrichment) and AP_2 (Subject specific competencies are being developed by use learning resource centers); and one statement of evaluation process (EP) dimension i.e., EP_3 (Assessment is being done on the basis of pre-decided rubrics) of Process factor; and one statement of professional competencies product (PCPr) dimension i.e., $PCPr_6$ (Developed me holistically); and one statement of teaching & evaluation competencies product (TECPr) dimension i.e., $TECPr_2$ (Developed competencies to use e- learning resourses in teaching learning process) of Product factor of B.Ed. programme as compared to government colleges of education and self-financed colleges of education (table 4.232).

Now, the summary of the results, related to the impact of B.Ed. programme on pupil teachers with respect to state, university, and type of institution, are pointwise mentioned below:

1. Both the states of Punjab and Haryana have significantly more effect than that of the state of Himachal Pradesh on the impact of B.Ed. programme with respect to total scores; three factors (i.e., Input, Process, and Product factors); and eleven dimensions (i.e., academic input (AI), resource input (RI), training input (TI), professional input (PI), curriculum transaction process (CTP), professional process (PP), training process (TP), academic process (AP), evaluation process (EP), professional competencies product (PCPr) and teaching & evaluation competencies product (TECPr) dimensions) of B.Ed. programme on pupil teachers whereas the states of Punjab, Himachal Pradesh, and Haryana do not have significant differences in their effect on the impact of B.Ed. programme with respect to one factor (i.e., Context factor) and three dimensions (i.e., mission & vision (MV), programme objectives (PO), and inclusive competencies product (ICPr) dimensions) of B.Ed. programme on pupil teachers.

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2. Both the grant-in-aid colleges of education and self-financed colleges of education have significantly more effect than government colleges of education on the impact of B.Ed. programme with respect to total scores; three factors (i.e., Context, Process, and Product factors); and eight dimensions (i.e., programme objectives (PO), academic input (AI), training input (TI), professional process (PP), training process (TP), evaluation process (EP), professional competencies product (PCPr) and teaching & evaluation competencies product (TECPr) dimensions) of B.Ed. programme on pupil teachers whereas the grant-in-aid colleges of education have significantly more effect than the self-financed colleges of education on the impact of B.Ed. programme with respect to total scores; one factor (i.e., Input factor) and five dimensions (i.e., mission & vision (MV), resource input (RI), professional input (PI), curriculum transaction process (CTP), and academic process (AP) dimensions) of B.Ed. programme on pupil teachers. On the other hand, the grant-in-aid colleges of education have significantly more effect than government colleges of education on the impact of B.Ed. programme with respect to only one dimension (i.e., inclusive competencies product (ICPr) dimension).

3. Both state and type of institution independently as well as together have a significant effect on the impact of B.Ed. programme with respect to total scores; three factors (i.e., Input, Process, and Product factors); and eleven dimensions (i.e., academic input (AI), resource input (RI), training input (TI), professional input (PI), curriculum transaction process (CTP), professional process (PP), training process (TP), academic process (AP), evaluation process (EP), professional competencies product (PCPr) and teaching & evaluation competencies product (TECPr) dimensions) whereas state independently has no effect but the type of institution independently as well as both state and type of institution together have a significant effect on the impact of B.Ed. programme with respect to one factor (i.e., Context factor) and three dimensions (i.e., mission

& vision (MV), programme objectives (PO), and inclusive competencies product (ICPr) dimensions) of B.Ed. programme on pupil teachers.

4. The states of Himachal Pradesh, Haryana, and Punjab have statementwise significant differences on the impact of B.Ed. programme on pupil teachers with respect to forty-seven statements i.e., holistic development of prospective teachers (MV_2), development of inclusive competencies to deal with diverse students (MV_4), practical aspects of teaching and learning process (PO_1), rigorous teaching internship practice (PO_2), link school knowledge with community life (PO_3), the inclusion of all activities of B.Ed. programme in academic calendar (AI_1), subject specific field based assignments (AI_2), diverse projects (AI_3), easily accessibility of library resources (RI_1), availability ofmodern learning facilitates for teaching (RI_2), availability learning resource centers/labs (RI_3), teaching skill inputs through simulated teaching (TI_1), clarification regarding roles and responsibilities of teaching intern (TI_3), organization of field work in schools (TI_4), rigorous teaching internship in schools (TI_5), extra inputs for state/center level teacher eligibility test (TI_6), enhancement of professional capacities(PI_1), setting collaborative partnership with community (PI_2), provision of remedial measures as per needs of the students (CTP_2), use of e-resources in classroom teaching (CTP_3), conduction of field based academic tasks (CTP_4), performing roles of teacher, students and observer during simulated teaching practice(CTP_5), conduction of different academic and non-academic activities during teaching internship (CTP_7), sensitizing about community (PP_1), understanding about school systems through field visits to school (PP_2), professional enhancement activities (PP_3), inputs for the preparation of Teacher Eligibility Test(PP_4), constructive feedback in simulated teaching practice (TP_1), conduction of service learning activities in collaboration with community (TP_2), conduction of community projects in collaboration with NGOs (TP_3), consultation of library resources for content enrichment (AP_1), development of subject specific competencies with the use of learning resource centers(AP_2), discussion of evaluation criterion (EP_1),

application of various formative assessment strategies (EP$_2$),developed communication competencies (PCPr$_3$), developed competencies to conduct various academic activities (PCPr$_4$) and non-academic activities(PCPr$_5$), developed holistically (PCPr$_6$), developed social competencies to deal effectively with community (PCPr$_7$), developed cooperation and collaboration skills (PCPr$_8$),developed skills to deal with the diverse problems of classroom (ICPr$_1$), developed instructional planning skills (TECPr$_1$), developed competencies to use e-learning resources in teaching learning process (TECPr$_2$), developed skills to design various assessment strategies (TECPr$_3$), integrated online resources in teaching learning process (TECPr$_4$), used latest teaching strategies (TECPr$_5$) and used various evaluation strategies (TECPr$_6$).

5. The government colleges of education, grant-in-aid colleges of education, and self-financed colleges of education have statementwise significant differences on the impact of B.Ed. programme on pupil teachers with respect to forty-five statements i.e., development of competent professional (MV$_1$) holistic development of prospective teachers (MV$_2$), practical aspects of teaching and learning process (PO$_1$), increases employment opportunities (PO$_4$), the inclusion of all activities of B.Ed. programme in academic calendar (AI$_1$), subject specific field based assignments (AI$_2$), diverse projects (AI$_3$), easily accessibility of library resources (RI$_1$), availability ofmodern learning facilitates for teaching (RI$_2$), availability learning resource centers/labs (RI$_3$), clarification regarding roles and responsibilities of teaching intern (TI$_3$), organization of field work in schools (TI$_4$), extra inputs for state/center level teacher eligibility test (TI$_6$), enhancement of professional capacities (PI$_1$), setting collaborative partnership with community (PI$_2$), sharing of real life experiences in the class room (CTP$_1$), provision of remedial measures as per needs of the students (CTP$_2$), use of e-resources in classroom teaching (CTP$_3$), conduction of field based academic tasks (CTP$_4$), performing roles of teacher, students and observer during simulated teaching practice (CTP$_5$), daily evaluation of classroom teaching in teaching practice

(CTP_6), sensitizing about community (PP_1), understanding about school systems through field visits to school (PP_2), professional enhancement activities (PP_3), inputs for the preparation of Teacher Eligibility Test (PP_4), conduction of service learning activities in collaboration with community (TP_2), conduction of community projects in collaboration with NGOs (TP_3), consultation of library resources for content enrichment (AP_1), development of subject specific competencies with the use of learning resource centers(AP_2), application of various formative assessment strategies (EP_2), pre-decided rubrics for assessment (EP_3), developed communication competencies ($PCPr_3$), developed competencies to conduct various academic activities ($PCPr_4$) and non-academic activities ($PCPr_5$), developed holistically ($PCPr_6$), developed social competencies to deal effectively with community ($PCPr_7$), developed cooperation and collaboration skills ($PCPr_8$),developed skills to deal with the diverse problems of classroom ($ICPr_1$), developed inclusive competencies to deal with diverse students ($ICPr_2$), developed instructional planning skills ($TECPr_1$), developed competencies to use e-learning resources in teaching learning process ($TECPr_2$), developed skills to design various assessment strategies ($TECPr_3$), integrated online resources in teaching learning process ($TECPr_4$), used latest teaching strategies ($TECPr_5$) and used various evaluation strategies ($TECPr_6$).

6. The private universities have significantly more effect than state government universities on the impact of B.Ed. programme with respect to total scores; all the four factors (i.e., Context, Input, Process, and Product factors); and all the fourteen dimensions (i.e., mission & vision (MV), programme objectives (PO), academic input (AI), resource input (RI), training input (TI), professional input (PI), curriculum transaction process (CTP), professional process (PP), training process (TP), academic process (AP), evaluation process (EP), professional competencies product (PCPr), inclusive competencies product (ICPr) and teaching & evaluation competencies product (TECPr) dimensions) of B.Ed. programme on pupil teachers.

7. The self-financed institutions affiliated with private universities have significantly more effect than self-financed institutions affiliated to state government universities on the impact of B.Ed. programme with respect to total scores; all the four factors (i.e., Context, Input, Process, and Product factors); and all the fourteen dimensions (i.e., mission & vision (MV), programme objectives (PO), academic input (AI), resource input (RI), training input (TI), professional input (PI), curriculum transaction process (CTP), professional process (PP), training process (TP), academic process (AP), evaluation process (EP), professional competencies product (PCPr), inclusive competencies product (ICPr) and teaching & evaluation competencies product (TECPr) dimensions) of B.Ed. programme on pupil teachers.

8. The state government universities and private universities have statementwise significant differences on the impact of B.Ed. programme on pupil teachers with respect to fifty statements i.e., holistic development of prospective teachers (MV_2), development of skills to deal with the diverse problems of the classroom (MV_3), development of inclusive competencies to deal with diverse students (MV_4), practical aspects of teaching and learning process (PO_1), rigorous teaching internship practice (PO_2), link school knowledge with community life (PO_3), increases employment opportunities (PO_4), the inclusion of all activities of B.Ed. programme in academic calendar (AI_1), subject specific field based assignments (AI_2), diverse projects (AI_3), easily accessibility of library resources (RI_1), availability ofmodern learning facilitates for teaching (RI_2), availability learning resource centers/labs (RI_3), teaching skill inputs through simulated teaching (TI_1), handbook/guidelines for teaching internship (TI_2), clarification regarding roles and responsibilities of teaching intern (TI_3), organization of field work in schools (TI_4), rigorous teaching internship in schools (TI_5), extra inputs for state/center level teacher eligibility test (TI_6), enhancement of professional capacities(PI_1), setting collaborative partnership with community (PI_2), provision of remedial measures as per needs of the students (CTP_2), use of e-resources in classroom

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teaching (CTP$_3$), conduction of field based academic tasks (CTP$_4$), performing roles of teacher, students and observer during simulated teaching practice(CTP$_5$), daily evaluation of classroom teaching in teaching practice(CTP$_6$), understanding about school systems through field visits to school (PP$_2$), professional enhancement activities (PP$_3$), inputs for the preparation of Teacher Eligibility Test (PP$_4$), constructive feedback in simulated teaching practice (TP$_1$), conduction of service learning activities in collaboration with community (TP$_2$), conduction of community projects in collaboration with NGOs (TP$_3$), consultation of library resources for content enrichment (AP$_1$), development of subject specific competencies with the use of learning resource centers (AP$_2$), discussion of evaluation criterion (EP$_1$), application of various formative assessment strategies (EP$_2$), pre-decided rubrics for assessment (EP$_3$), transformed into a competent professional (PCPr$_1$), competent in qualifying teacher eligibility test (PCPr$_2$), developed communication competencies (PCPr$_3$), developed competencies to conduct various academic activities (PCPr$_4$), developed holistically (PCPr$_6$), developed social competencies to deal effectively with community (PCPr$_7$), developed skills to deal with the diverse problems of classroom (ICPr$_1$), developed inclusive competencies to deal with diverse students (ICPr$_2$), developed instructional planning skills (TECPr$_1$), developed competencies to use e-learning resources in teaching learning process (TECPr$_2$), developed skills to design various assessment strategies (TECPr$_3$), integrated online resources in teaching learning process (TECPr$_4$), and uses latest teaching strategies (TECPr$_5$).

4.2.2 IMPACT OF B.ED. PROGRAMME ON TEACHER EDUCATORS WITH RESPECT TO (i) STATE, (ii) UNIVERSITY, AND (iii) TYPE OF INSTITUTION

The evaluation scale of the impact of B.Ed. programme (ESIBP-TEs) was filled by Teacher Educators (N = 120) of government colleges of education (N = 35), grant-in-aid colleges of education (N = 35) and self-financed colleges of education (N = 50) affiliated to state government universities (N = 105) and private universities (N = 15) of Punjab (N = 55), Himachal Pradesh (N = 15) and Haryana (N = 50).

A Two-way (3 x 3) ANOVA was applied for computing and comparing the significance of differences in means to study the main and interaction effects of state at 3 levels (Punjab (PB), Himachal Pradesh (HP), and Haryana (HR)) and type of institution at 3 levels (government colleges of education (GCE), grant-in-aid colleges of education (GIACE) and private universities (SFCE)) on the impact of B.Ed. programme on teacher educators on the data taken as (i) total scores,(ii) factorwise scores, and (iii) dimensionwise scores respectively.

4.2.2.1 Effect of State and Type of Institution on the Impact of B.Ed. Programme on Teacher Educators (Total Sccroes)

A two-way ANOVA, i.e., 3 (levels of state) and 3 (levels of institution), was applied to study the effect of two independent variables i.e., state and type of institution (TOI) on a single dependent variable i.e., the impact of B.Ed. programme (IBP) on TEs on the data obtained in terms of rating scores of teacher educators on ESIBP (total scores) after the computation of means and standard deviations for each level. The term state, here, refers to three states i.e., the state of Punjab (PB), Himachal Pradesh (HP), and Haryana (HR), and the term type of institution (TOI), here, refers to three types of institutions i.e., the government (GCE), grant-in-aid (GIACE) and self-financed (SFCE) colleges of education (table 4.233).

The significance of differences between means of the impact of B.Ed. programme (in case of teacher educators with respect to state and type of institution) have been computed, compared, and tested against the following null hypotheses:

H_o: There is no significant main effect of state on the impact of B.Ed. programme on teacher educators.

H_o: There is no significant main effect of type of institution on the impact of B.Ed. programme on teacher educators.

H_o: There is no significant interaction effect of state and type of institution on the impact of B.Ed. programme on teacher educators.

Table 4.233

Descriptive Statistics and Summary of Two-Way (3 x 3) ANOVA on the Impact of B.Ed. Programme (Total Scores) on Teacher Educators with respect to State and Type of Institution

Descriptive Statistics				
Category	**Type**	**N**	**Mean**	**SD**
State	HP	15	165.33	12.24
	HR	50	172.94	21.04
	PB	55	167.86	19.35
TOI	GIACE	35	163.77	22.27
	GCE	35	166.43	20.83
	SFCE	50	176.04	14.12
Summary of Two-Way (3 x 3) ANOVA				
SOV	**df**	**SS**	**MS**	**F-ratio**
State	2	933.43	466.72	1.52
TOI	2	1422.95	711.47	2.32
State x TOI	4	6243.37	1560.84	**5.08**^{**}
Error	111	34087.59	307.10	
Total	119			

^{**}$α = .01$ *and* [*]$α = .05$

4.2.2.1.1 Main and Interaction Effect of State and Type of Institution on the Impact of B.Ed. Programme (Total Scores) on Teacher Educators

Main Effect of State on the Impact of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of state on the impact of B.Ed. programme on teacher educators of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{State\ (2,\ 111)} = 1.52$ is not significant at $α = .05$ (table 4.233). Thus, H_o stands accepted for the effect of state on the impact of B.Ed. programme on teacher educators.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant impact of B.Ed. programme on teacher educators.

Main Effect of Type of Institution on the Impact of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of type of institution on the impact of B.Ed. programme on teacher educators of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{TOI\ (2,\ 111)} = 2.32$ is not significant at $\alpha = .05$ (table 4.233). Thus, H_o stands accepted for the effect of type of institution on the impact of B.Ed. programme on teacher educators.

Hence, the government, grant-in-aid, and self-financed colleges of education have no significant impact of B.Ed. programme on teacher educators.

Interaction Effect of State and Type of Institution on the Impact of B.Ed. Programme on Teacher Educators

In table 4.233, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of B.Ed. programme on teacher educators is found to be significant, as the value of $F_{State\ x\ TOI\ (4,\ 111)} = 5.08$ is significant at $\alpha = .01$. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of B.Ed. programme on teacher educators.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of B.Ed. programme on teacher educators varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.234.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of B.Ed. programme on teacher educators.

Table 4.234

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of B.Ed.

Programme on Teacher Educators

Type of Institution ↓	State → Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 15$ $M_1 = 174.73$	$N_2 = 05$ $M_2 = 157.80$	$N_3 = 15$ $M_3 = 161.00$
Grant-in Aid	$N_4 = 15$ $M_4 = 151.27$	$N_5 = 05$ $M_5 = 172.80$	$N_6 = 15$ $M_6 = 173.27$
Self-Financed	$N_7 = 25$ $M_7 = 173.68$	$N_8 = 05$ $M_8 = 165.40$	$N_9 = 20$ $M_9 = 181.65$

N = Number of TEs and M = Mean Scores

Table 4.235

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of B.Ed. Programme on Teacher Educators

Type of Institution – Government Colleges of Education (GCE)			
State →	↓Mean →	Punjab	Himachal Pradesh	Haryana
		174.73	157.80	161.00
Punjab	174.73	-	16.93	13.73
Himachal Pradesh	157.80		-	3.20
Haryana	161.00			-

Type of Institution – Grant-in-Aid Colleges of Education (GIACE)			
State →	↓Mean →	Punjab	Himachal Pradesh	Haryana
		151.27	172.80	173.27
Punjab	151.27	-	21.53	22.00
Himachal Pradesh	172.80		-	.47
Haryana	173.27			-

Type of Institution – Self-Financed Colleges of Education (SFCE)			
State →	↓Mean →	Punjab	Himachal Pradesh	Haryana
		173.68	165.40	181.65
Punjab	173.68	-	8.28	7.97
Himachal Pradesh	165.40		-	16.25
Haryana	181.65			-

State - Punjab (PB)			
Type of Institution →	↓Mean →	Government	Grant-in Aid	Self-Financed
		174.73	151.27	173.68
Government	174.73	-	23.46	1.05
Grant-in Aid	151.27		-	22.41
Self-Financed	173.68			-

State - Himachal Pradesh (HP)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
	↓Mean ⟶	157.80	172.80	165.40
Government	157.80	-	15.00	7.60
Grant-in Aid	172.80		-	7.40
Self-Financed	165.40			-
State – Haryana (HR)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
	↓Mean ⟶	161.00	173.27	181.65
Government	161.00	-	12.27	20.65
Grant-in Aid	173.27		-	8.38
Self-Financed	181.65			-

$q_{k\ at\ .05} = 4.17$ & HSD or Q $_{critical\ at\ .05} = 24.23$; $q_{k\ at\ .05} = 4.88$ & HSD or Q $_{critical\ at\ .01} = 28.62$; $^{**}\alpha = .01$ and $^{*}\alpha = .05$

All the comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab (PB), type of institution at Himachal Pradesh (HP), and type of institution at Haryana (HR) respectively are non-significant as is shown in table 4.235.
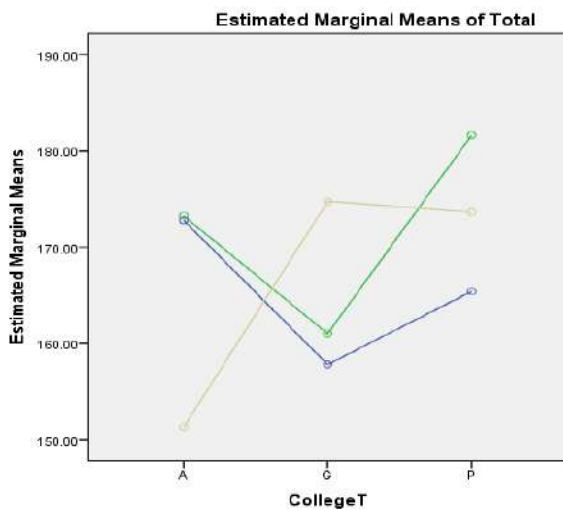
4.120-A (College = Constant)   4.120-B (State = Constant)
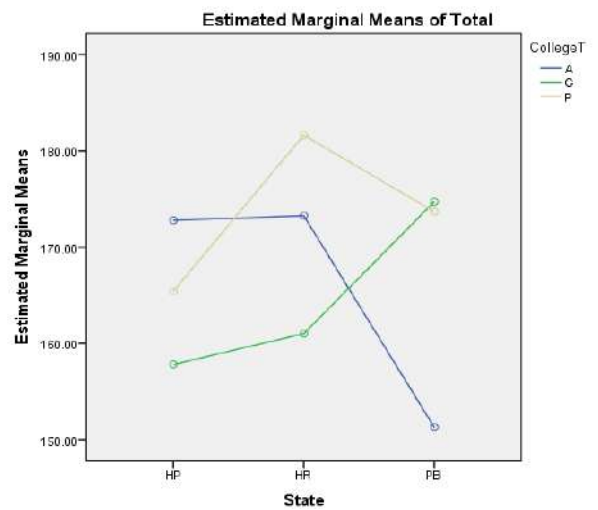
Figure 4.120   Interaction Effect of State (4.120-A) and Type of Institution (4.120-A) on the Impact of B.Ed. Programme (as a whole) on Teacher Educators

For significant interaction of State x Type of Institution, Tukey's HSD test shows that -

- For impact of B.Ed. programme on teacher educators w. r. t. state (table 4.235 and figure 4.120-A) (i) at GCE comparisons of means - PB > HP ($M_{PB - HP}$ = 16.93 ns); HR > HP ($M_{HR - HP}$ = 3.20 ns); and PB > HR ($M_{PB - HR}$ = 13.73 ns) are non significant at α = .05; (ii) at GIACE comparisons of means - HP > PB ($M_{HP - PB}$ = 21.53 ns); HR > PB ($M_{HR - PB}$ = 22.00 ns); and HR > HP ($M_{HR - HP}$ = .47 ns) are non significant at α = .05; and (iii) at SFCE comparisons of means - PB > HP ($M_{PB - HP}$ = 8.28 ns); HR > PB ($M_{HR - PB}$ = 7.97 ns); and HR > HP ($M_{HR - HP}$ = 16.25 ns) are non significant at α = .05.

  Thus, the effect of the state is independent of the type of institution.

- For impact of B.Ed. programme on teacher educators w. r. t. type of institution (table 4.235 and figure 4.120-B) (i) at PB comparisons GCE > SFCE ($M_{GCE - SFCE}$ = 1.05 ns); SFCE > GIACE ($M_{SFCE - GIACE}$ = 22.41 ns); andGCE > GIACE ($M_{GCE - GIACE}$ = 23.46 ns) are non significant at α = .05 (ii) at HP comparisons of means - GIACE > SFCE ($M_{GIACE - SFCE}$ = 7.40 ns); GIACE > GCE ($M_{GIACE - GCE}$ = 15.00 ns);and SFCE > GCE ($M_{SFCE - GCE}$ = 7.60 ns) are non significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE ($M_{GIACE - GCE}$ = 12.27 ns); SFCE > GIACE ($M_{SFCE - GIACE}$ = 8.38);and SFCE > GCE ($M_{SFCE - GCE}$ = 20.65 ns) are non significant at α = .05.

  Thus, the effect of the type of institution is independent of the state.

Thus, H$_o$ stands accepted for the interaction effect of state and type of institution on the impact of B.Ed. programme on teacher educators.

Hence, both state and type of institution independently as well as together have no significant effect on the impact of B.Ed. programme on teacher educators (total Scores).

4.2.2.1.2 Effect of Type of Self-Financed Institution on the Impact of B.Ed. Programme on Teacher Educators (Total Scores)

t-test (independent samples) was applied to study the effect of a single independent variable i.e., type of self-financed institution on a single dependent variable i.e., the impact of B.Ed. programme (IBP) on teacher educators on the data obtained in terms of

rating scores of teacher educators on ESIBP (total scores) after the computation of means and standard deviations. The term type of self-financed institution, here, refers to two types of self-financed institutions i.e., self-financed institutions affiliated to the state government (SFISGU) affiliated to state government universities and self-financed institutions affiliated to private universities (SFIPU) (table 4.235A).

Table 4.235A

Means Matrices Showing Significance of Difference in Means regarding the Impact of B.Ed. Programme on Teacher Educators with respect to Type of Self-Financed Institution

Type of Self-Financed Institution ⟶			SFISGU	SFIPU
↓	**N**	**Mean** ⟶ **SD** ↓	177.03 15.07	173.73 11.76
SFISGU	35	177.03 15.07	-	.75
SFIPU	15	173.73 11.76		**-**

*$**\alpha = .01$ and *$\alpha = .05$*

SFISGU (Self-financed institutions affiliated with state government universities) and SFIPU (Self-financed institutions affiliated with private universities)

The significance of the difference between means of the impact of B.Ed. programme in case of teacher educator with respect to the type of self-financed institution has been computed, compared (table 4.236), and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of B.Ed. programme on teacher educators with respect to the type of self-financed institution.

The comparison of means on the impact of B.Ed. programme on teacher educators is between the self-financed institutions affiliated to state government universities *(*M_{SFISGU} = 177.03) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 173.73), as the value of t $_{(48)}$ = .75 is not significant at α = .05 (table 4.235A). Thus, H_o stands accepted for the teacher educators of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of B.Ed. programme on teacher educators.

4.2.2.2 Effect of University on Impact of B.Ed. Programme on Teacher Educators (Total Scores)

t-test (independent samples) was applied to study the effect of a single independent variable i.e., university on a single dependent variable i.e., the impact of B.Ed. programme (IBP) on teacher educators on the data obtained in terms of rating scores of teacher educators on ESIBP (total scores) after the computation of means and standard deviations. The term university, here, refers to two universities i.e., state government universities (SGU) and private universities (PU) (table 4.236).

The significance of the difference between means of the impact of B.Ed. programme in case of teacher educators with respect to university has been computed, compared (table 4.236), and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of B.Ed. programme on teacher educators with respect to the university.

Table 4.236

Means Matrices Showing Significance of Difference in Means regarding the Impact of B.Ed. Programme on Teacher Educators (Total Scores) on Teacher Educators with respect to University

University ⟶			SGU	PU
↓	**N**	**Mean** ⟶ **SD** ↓	169.08 20.28	173.73 11.76
SGU	105	169.08 20.28	-	.87
PU	15	173.73 11.76		-

$^{**}\alpha = .01$ *and* $^{*}\alpha = .05$

The comparison of means on the impact of B.Ed. programme on teacher educators is between the grant-in-aid ($M_{SGU} = 169.08$) vs self-financed universities ($M_{PU} = 173.73$), as the value of t $_{(118)}$ = .87 is not significant at $\alpha = .05$ (table 4.236). Thus, H_o stands

accepted for the teacher educators of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of B.Ed. programme on teacher educators.

4.2.2.3 Effect of State and Type of Institution on the Factorwise Impact of B.Ed. Programme on Teacher Educators

To study the effect of two independent variables i.e., state and type of institution on a single dependent variable i.e., the factorwise impact of B.Ed. programme (IBP) on teacher educators, a two-way ANOVA i.e., 3 (levels of state) and 3 (levels of institution) was applied on the data obtained in terms of rating scores of teacher educators on ESIBP (factorwise data) after the computation of means and standard deviations for each level.

The term state, here, refers to three states i.e., the state of Punjab (PB), Himachal Pradesh (HP), and Haryana (HR), and the term type of institution (TOI), here, refers to three types of institutions i.e., the government (GCE), grant-in-aid (GIACE) and self-financed (SFCE) colleges of education (table 4.237).

The significance of differences between means of the impact of four evaluation factors i.e., Context, Input, Process and Product factors of B.Ed. programme (in case of teacher educators with respect to state and type of institution) have been computed, compared, and tested against the following null hypotheses:

H_o: There is no significant main effect of state on the factorwise impact of B.Ed. programme on teacher educators.

H_o: There is no significant main effect of type of institution on the factorwise impact of B.Ed. programme on teacher educators.

H_o: There is no significant interaction effect of state and type of institution on the factorwise impact of B.Ed. programme on teacher educators.

Table 4.237
Descriptive Statistics and Summary of Two-Way (3 x 3) ANOVA for the Factorwise Impact of B.Ed. Programme on Teacher Educators with respect to State and Type of Institution (TOI)

Sr. No.	Factors	Category	Group	N	Mean	SD	SOV	df	SS	MS	F-ratio
1	Context	State	HP	15	25.00	2.39	State	2	43.64	21.82	1.84
			HR	50	26.40	4.16	TOI	2	73.03	36.52	**3.08***
			PB	55	25.46	3.80	State x TOI	4	212.03	53.01	**4.46****
		TOI	GCE	35	25.14	4.25	Error	111	1317.99	11.87	
			GIACE	35	24.46	3.99	Total	119	1739.79		
			SFCE	50	27.18	2.90					
2	Input	State	HP	15	42.60	4.12	State	2	90.55	45.27	1.93
			HR	50	45.42	5.98	TOI	2	200.35	100.18	**4.27***
			PB	55	44.15	5.19	State x TOI	4	422.11	105.53	**4.50****
		TOI	GCE	35	43.06	5.73	Error	111	2603.37	23.45	
			GIACE	35	42.74	5.61	Total	119	3547.97		
			SFCE	50	46.70	4.38					
3	Process	State	HP	15	49.67	4.62	State	2	25.462	12.731	.37
			HR	50	51.34	6.56	TOI	2	116.750	58.375	1.69
			PB	55	50.64	5.72	State x TOI	4	617.729	154.432	**4.46****
		TOI	GCE	35	49.74	7.17	Error	111	3839.643	34.591	
			GIACE	35	48.89	6.66	Total	119	4878.592		
			SFCE	50	52.90	5.02					
4	Product	State	HP	15	48.07	4.57	State	2	108.189	54.09	1.34
			HR	50	49.78	7.01	TOI	2	31.957	15.98	.40
			PB	55	47.62	6.64	State x TOI	4	550.474	137.62	**3.42***
		TOI	GCE	35	48.49	6.77	Error	111	4468.550	40.26	
			GIACE	35	47.69	8.10	Total	119	5203.325		
			SFCE	50	49.26	5.28					

**$\alpha = .01$ *and* *$\alpha = .05$

4.2.2.3.1   Main and Interaction Effect of State and Type of Institution on the Impact of Context Factor of B.Ed. Programme on Teacher Educators

Main Effect of State on the Impact of Context Factor of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of state on the impact of Context factor of B.Ed. programme on teacher educators of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{\text{Context – State (2, 111)}} = 1.84$ is not significant at $\alpha = .05$ (table 4.237). Thus, H_o stands accepted for the effect of state on the impact of Context factor of B.Ed. programme on teacher educators.

Hence, the states of Punjab, Himachal Pradesh, and Haryana do not have significant differences on the impact of the Context factor of B.Ed. programme on teacher educators.

Main Effect of Type of Institution on the Impact of Context Factor of B.Ed. Programme on Teacher Educators

There is a significant main effect of type of institution on the impact of Context factor of B.Ed. programme on teacher educators of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{\text{Context - TOI (2, 111)}} = 3.08$ is significant at $\alpha = .05$ (table 4.237). Thus, H_o stands not accepted for the effect of type of institution on the impact of Context factor of B.Ed. programme on teacher educators.

Hence, the government, grant-in-aid, and self-financed colleges of education have a statistically significant impact of the Context factor of B.Ed. programme on teacher educators.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means (table 4.238) and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of the Context factor of B.Ed. programme on teacher educators with respect to the type of institution.

Table 4.238

Means Matrix Showing Significance of Difference in Means of Context Factor regarding Impact of B.Ed. Programme on Teacher Educators with respect to Type of Institution

Type of Institution ⟶			Government	Grant-in Aid	Self-Financed
⟶	N	Mean ⟶ SD ↓	25.14 4.25	24.46 3.99	27.18 2.90
Government	35	25.14 4.25	-	.69	**2.47***
Grant-in Aid	35	24.46 3.99		-	**3.45****
Self-Financed	50	27.18 2.90			-

**$\alpha = .01$ *and* *$\alpha = .05$

Table 4.238 shows the significant mean differences on the impact of the Context factor of B.Ed. programme between the self-financed ($M_{SFCE} = 27.18$) vs government ($M_{GCE} = 25.14$) colleges of education favouring the self-financed colleges of education, as the value of t $_{(83)} = 2.47$ is significant at $\alpha = .05$; the grant-in-aid ($M_{GIACE} = 24.46$) vs self-financed ($M_{SFCE} = 27.18$) colleges of education favouring the self-financed colleges of education, as the value of t $_{(83)} = 3.45$ is significant at $\alpha = .01$;and non-significant mean difference on the impact of Context factor of B.Ed. programme exist between the grant-in-aid ($M_{GIACE} = 24.46$) vs government ($M_{GCE} = 25.14$) colleges of education, as the value of t $_{(68)} = .69$ is not significant at $\alpha = .05$. Thus, H$_o$ stands not accepted for the teacher educators in the government colleges of education vs self-financed colleges of education; and grant-in-aid colleges of education vs self-financed colleges of education comparisons whereas H$_o$ stands accepted for the teacher educators in the government colleges of education vs grant-in-aid colleges of education comparison.

Hence, the self-financed colleges of education have significantly more effect than both the grant-in-aid colleges of education and government colleges of education on the impact of the Context factor of B.Ed. programme on teacher educators whereas both the grant-in-aid colleges of education and government colleges of education do not have

significant difference on the impact of Context factor of B.Ed. programme on teacher educators.

Interaction Effect of State and Type of Institution on the Impact of Context Factor of B.Ed. Programme on Teacher Educators

In table 4.237, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of Context factor of B.Ed. programme on teacher educators is found to be significant, as the values of $F_{\text{Context - State x TOI (4, 111)}}$ = 4.46 is significant at α = .01. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of Context factor of B.Ed. programme on teacher educators.

Table 4.239

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Context Factor of B.Ed. Programme on Teacher Educators

Type of Institution	State	Punjab	Himachal Pradesh	Haryana
Government		N_1 = 15 M_1 = 25.87	N_2 = 05 M_2 = 25.80	N_3 = 15 M_3 = 24.20
Grant-in Aid		N_4 = 15 M_4 = 21.93	N_5 = 05 M_5 = 24.20	N_6 = 15 M_6 = 27.07
Self-Financed		N_7 = 25 M_7 = 27.32	N_8 = 05 M_8 = 25.00	N_9 = 20 M_9 = 27.55

N = Number of TEs and M = Mean Scores

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of Context factor of B.Ed. programme on teacher educators varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.239.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

Table 4.240

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Context Factorof B.Ed. Programme on Teacher Educators

Type of Institution – Government Colleges of Education (GCE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean⟶	25.87	25.80	24.20
Punjab	25.87	-	.07	1.67
Himachal Pradesh	25.80		-	1.60
Haryana	24.20			-
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean⟶	21.93	24.20	27.07
Punjab	21.93	-	2.27	**5.14**[*]
Himachal Pradesh	24.20		-	2.87
Haryana	27.07			-
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean⟶	27.32	25.00	27.55
Punjab	27.32	-	2.32	.23
Himachal Pradesh	25.00		-	2.55
Haryana	27.55			-
State - Punjab (PB)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean⟶	25.87	21.93	27.32
Government	25.87	-	3.94	1.45
Grant-in Aid	21.93		-	**5.39**[*]
Self-Financed	27.32			-
State - Himachal Pradesh (HP)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean⟶	25.80	24.20	25.00
Government	25.80	-	1.60	.80
Grant-in Aid	24.20		-	.80
Self-Financed	25.00			-
State – Haryana (HR)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean⟶	24.20	27.07	27.55
Government	24.20	-	2.87	3.35
Grant-in Aid	27.07		-	.48
Self-Financed	27.55			-

$q_{k\ at\ .05} = 4.24$ & HSD or $Q_{critical\ at\ .05} = 4.76$; $q_{k\ at\ .05} = 5.01$ & HSD or $Q_{critical\ at\ .01} = 5.63$; [**]$\alpha = .01$ and [*] $\alpha = .05$

H$_o$:   There is no significant interaction effect of state and type of institution on the impact of Context factor of B.Ed. programme on teacher educators.

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.240.

4.121-A (College =Constant)   **4.121-B (State=Constant)**
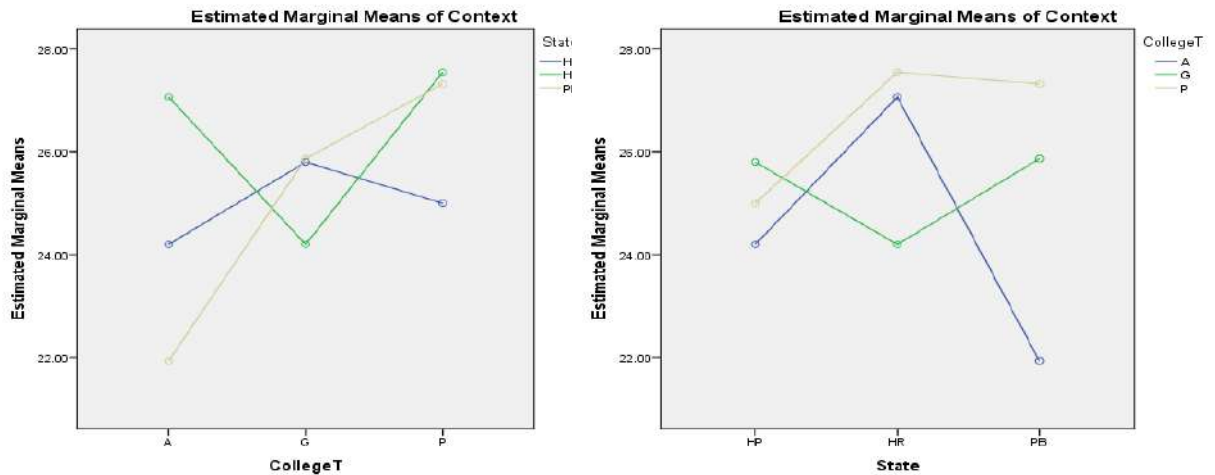
Figure 4.121 Interaction Effect of State (4.121-A) and Type of Institution (4.121-B) on the Impact of Context Factor of B.Ed. Programme on Teacher Educators

For significant interaction of State x Type of Institution, Tukey's HSD test shows that –

➢ For impact of B.Ed. programme on teacher educators w. r. t. state (table 4.240 and figure 4.121-A) (i) at GCE comparisons of means - PB > HP (M $_{PB – HP}$ = .07 ns); HP > HR (M $_{HP – HR}$ = 1.60 ns); and PB > HR (M $_{PB – HR}$ = 1.67 ns) are non significant at α = .05; (ii) at GIACE comparisons of means - HP > PB (M $_{HP – PB}$ = 2.27 ns); and HR > HP (M $_{HR – HP}$ = 2.87 ns) are non significant at α = .05; and HR > PB (M $_{HR –PB}$ = 5.14*) is significant at α = .05; (iii) at SFCE comparisons of means - PB > HP (M $_{PB – HP}$ = 2.32 ns); HR > PB (M $_{HR – PB}$ = .23 ns); and HR > HP (M $_{HR – HP}$ = 2.55 ns) are non significant at α = .05.

Thus, the effect of the state depends on the type of institution.

➢ For impact of B.Ed. programme on teacher educators w. r. t. type of institution (table 4.240 and figure 4.121-B) (i) at PB comparisons SFCE > GCE (M $_{SFCE – GCE}$ = 1.45 ns) and GCE > GIACE (M $_{GCE – GIACE}$ = 3.94 ns) are non significant at α = .05; and SFCE > GIACE (M $_{SFCE – GIACE}$ = 5.39[*]) is significant at α = .05; (ii) at HP comparisons of means - GCE > GIACE (M $_{GCE – GIACE}$ = 1.60 ns); GCE > SFCE (M $_{GCE – SFCE}$ = .80 ns); and SFCE > GIACE (M $_{SFCE – GIACE}$ = .80 ns) are non significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE (M $_{GIACE – GCE}$ = 2.87 ns); SFCE > GIACE (M $_{SFCE – GIACE}$ = .48 ns); and SFCE > GCE (M $_{SFCE – GCE}$ = 3.35 ns) are non significant at α = .05.

Thus, the effect of the type of institution depends on the state.

Thus, H$_o$ stands not accepted for the interaction effect of state and type of institution on the impact of Context factor of B.Ed. programme on teacher educators.

Hence, state and type of institution independently have non-significant and significant effect respectively whereas state and type of institution together have a significant effect on the impact of Context factor of B.Ed. programme on teacher educators.

4.2.2.3.2   Main and Interaction Effect of State and Type of Institution on the Impact of Input Factor of B.Ed. Programme on Teacher Educators

Main Effect of State on the Impact of Input Factor of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of state on the impact of Input factor of B.Ed. programme on teacher educators of the state of Punjab, Himachal Pradesh, and Haryana, as the value of F $_{Input – State (2, 111)}$ = 1.93 is not significant at α = .05 (table 4.237). Thus, H$_o$ stands accepted for the effect of state on the impact of Input factor of B.Ed. programme on teacher educators.

Hence, the states of Punjab, Himachal Pradesh, and Haryana have no significant differences on the impact of the Input factor of B.Ed. programme on teacher educators.

Main Effect of Type of Institution on the Impact of Input Factor of B.Ed. Programme on Teacher Educators

There is a significant main effect of type of institution on the impact of Input factor of B.Ed. programme on teacher educators of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{\text{Input} - \text{TOI} (2, 111)} = 4.27$ is significant at $\alpha = .05$ (table 4.237). Thus, H_o stands not accepted for the effect of type of institution on the impact of Input factor of B.Ed. programme on teacher educators.

Hence, the government, grant-in-aid, and self-financed colleges of education have a statistically significant impact of the Input factor of B.Ed. programme on teacher educators.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of the Input factor of B.Ed. programme on teacher educators with respect to the type of institution.

Table 4.241

Means Matrix Showing Significance of Difference in Means regarding the Impact of Input Factor of B.Ed. Programme on Teacher Educators with respect to Type of Institution

Type of Institution ⟶			Government	Grant-in Aid	Self-Financed
	N	**Mean ⟶** **SD ↓**	43.06 5.73	42.74 5.61	46.70 4.38
Government	35	43.06 5.73	-	.24	**3.17****
Grant-in Aid	35	42.74 5.61		-	**3.50****
Self-Financed	50	46.70 4.38			-

**α = .01 and *α = .05

Table 4.241 shows the significant mean differences on the impact of the Input factor of B.Ed. programme between the self-financed ($M_{\text{SFCE}} = 46.70$) vs government ($M_{\text{GCE}} = 43.06$) colleges of education favouring the self-financed colleges of education, as the

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value of $t_{(83)} = 3.17$ is significant at $\alpha = .01$; the grant-in-aid ($M_{GIACE} = 42.74$) vs self-financed ($M_{SFCE} = 46.70$) colleges of education favouring the self-financed colleges of education, as the value of $t_{(83)} = 3.50$ is significant at $\alpha = .01$;and non-significant mean difference on the impact of Input factor of B.Ed. programme exist between the grant-in-aid ($M_{GIACE} = 42.74$) vs government ($M_{GCE} = 43.06$) colleges of education, as the value of $t_{(68)} = .24$ is not significant at $\alpha = .05$. Thus, H_o stands not accepted for the teacher educators in the government colleges of education vs self-financed colleges of education; and grant-in-aid colleges of education vs self-financed colleges of education comparisons whereas H_o stands accepted for the teacher educators in the government colleges of education vs grant-in-aid colleges of education comparison.

Hence, the self-financed colleges of education have significantly more effect than both the grant-in-aid colleges of education and government colleges of education on the impact of Input factor of B.Ed. programme on teacher educators whereas both the grant-in-aid colleges of education and government colleges of education do not have significant difference on the impact of Input factor of B.Ed. programme on teacher educators.

Interaction Effect of State and Type of Institution on the Impact of Input Factor of B.Ed. Programme on Teacher Educators

In Table 4.237, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of Input factor of B.Ed. programme on teacher educators is found to be significant, as the values of $F_{\text{Input - State x TOI (4, 111)}} = 4.50$ is significant at $\alpha = .01$. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of Input factor of B.Ed. programme on teacher educators.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of Input factor of B.Ed. programme on teacher educators varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.242.

Table 4.242

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Input Factor of B.Ed. Programme on Teacher Educators

Type of Institution ↓	State → Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 15$ $M_1 = 45.33$	$N_2 = 05$ $M_2 = 39.80$	$N_3 = 15$ $M_3 = 41.87$
Grant-in Aid	$N_4 = 15$ $M_4 = 39.67$	$N_5 = 05$ $M_5 = 44.80$	$N_6 = 15$ $M_6 = 45.13$
Self-Financed	$N_7 = 25$ $M_7 = 46.12$	$N_8 = 05$ $M_8 = 43.20$	$N_9 = 20$ $M_9 = 48.30$

N = Number of TEs and M = Mean Scores

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of Input factor of B.Ed. programme on teacher educators.

Table 4.243

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Input Factorof B.Ed. Programme on Teacher Educators

Type of Institution – Government Colleges of Education (GCE)			
State →	Punjab	Himachal Pradesh	Haryana
↓Mean→	45.33	39.80	41.87
Punjab	45.33	-	5.53	3.46
Himachal Pradesh	39.80		-	2.07
Haryana	41.87			-
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)			
State →	Punjab	Himachal Pradesh	Haryana
↓Mean→	39.67	44.80	45.13
Punjab	39.67	-	5.13	5.46
Himachal Pradesh	44.80		-	.33
Haryana	45.13			-

Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	↓**Mean**⟶	46.12	43.20	48.30
Punjab	46.12	-	2.92	2.18
Himachal Pradesh	43.20		-	5.10
Haryana	48.30			-
State - Punjab (PB)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**⟶	45.33	39.67	46.12
Government	45.33	-	5.66	.79
Grant-in Aid	39.67		-	6.45
Self-Financed	46.12			-
State - Himachal Pradesh (HP)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**⟶	39.80	44.80	43.20
Government	39.80	-	5.00	.34
Grant-in Aid	44.80		-	.16
Self-Financed	43.20			-
State – Haryana (HR)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**⟶	41.87	45.13	48.30
Government	41.87	-	3.26	6.43
Grant-in Aid	45.13		-	3.17
Self-Financed	48.30			-

$q_{k\ at\ .05}$ = 4.24 & HSD or Q $_{critical\ at\ .05}$ = 6.69; $q_{k\ at\ .01}$ = 5.01 & HSD or Q $_{critical\ at\ .01}$ = 7.91; **α = .01 and *α = .05

All the comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh, and type of institution at Haryana respectively are non-significant as is shown in table 4.243.

For significant interaction of State x Type of Institution, Tukey's HSD test shows that –

➤ For impact of B.Ed. programme on teacher educators w. r. t. state (table 4.243 and figure 4.122-A) (i) at GCE comparisons of means - PB > HP (M $_{PB – HP}$ = 5.53 ns); HR > HP (M $_{HR – HP}$ = 2.07 ns); and PB > HR (M $_{PB – HR}$ = 3.46 ns) are non significant at α = .05; (ii) at GIACE comparisons of means - HP > PB (M $_{HP – PB}$ = 5.13 ns); HR > HP (M $_{HR – HP}$ = .33 ns); and HR > PB (M $_{HR – PB}$ = 5.46 ns) are non significant at α = .05; (iii) at SFCE comparisons of means - PB > HP (M $_{PB – HP}$ =

2.92 ns); HR > PB (M $_{HR - PB}$ = 2.18 ns); and HR > HP (M $_{HR - HP}$ = 5.10 ns) are non significant at α = .05.

Thus, the effect of the state is independent of the type of institution.

4.122-A (College =Constant)   **4.122-B (State=Constant)**
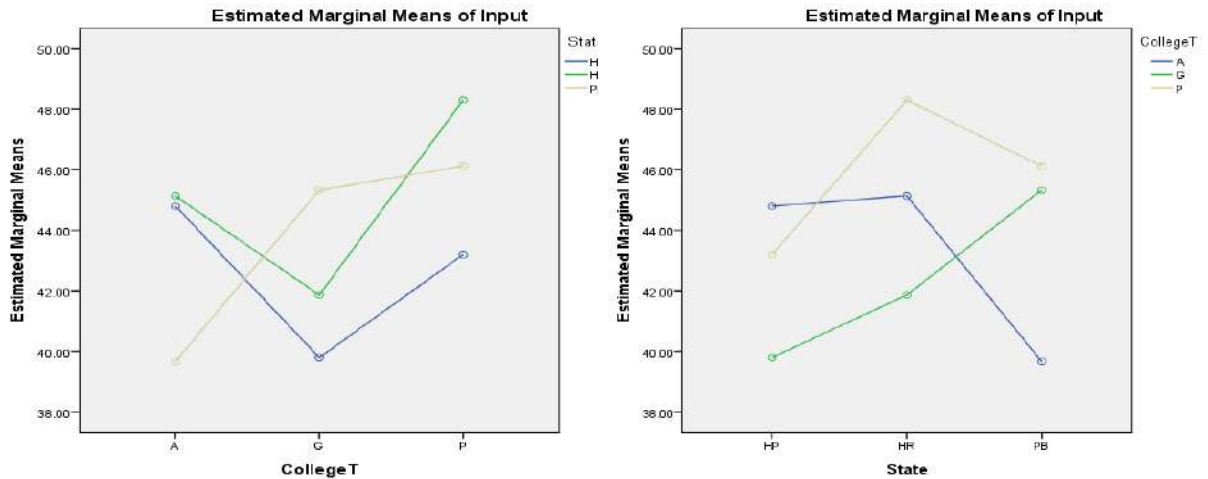
Figure 4.122 Interaction Effect of State (4.122-A) and Type of Institution (4.122-B) on the Impact of Input Factor of B.Ed. Programme on TEs

➢ For impact of B.Ed. programme on teacher educators w. r. t. type of institution (table 4.243 and figure 4.122-B) (i) at PB comparisons SFCE > GCE (M $_{SFCE - GCE}$ = .79 ns); GCE > GIACE (M $_{GCE - GIACE}$ = 5.66 ns); and SFCE > GIACE (M $_{SFCE - GIACE}$ = 6.45 ns) are non significant at α = .05; (ii) at HP comparisons of means - GIACE > GCE (M $_{GIACE - GCE}$ = 5.00 ns); SFCE > GCE (M $_{SFCE - GCE}$ = 3.40 ns); and GIACE > SFCE (M $_{GIACE - SFCE}$ = 1.60 ns) are non significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE (M $_{GIACE - GCE}$ = 3.26 ns); SFCE > GIACE (M $_{SFCE - GIACE}$ = 3.17 ns); and SFCE > GCE (M $_{SFCE - GCE}$ = 6.43 ns) are non significant at α = .05.

Thus, the effect of the type of institution is independent of the state.

Thus, H$_o$ stands accepted for the interaction effect of state and type of institution on the impact of Input factor of B.Ed. programme on teacher educators.

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Hence, state and type of institution independently as well as together have no significant effect on the impact of Inputfactor of B.Ed. programme on teacher educators.

4.2.2.3.3   Main and Interaction Effect of State and Type of Institution on the Impact of Process Factor of B.Ed. Programme on Teacher Educators

Main Effect of State on the Impact of Process Factor of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of state on the impact of Process factor of B.Ed. programme on teacher educators of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{Process - State}$ $(2, 111) = .37$ is not significant at $\alpha = .05$ (table 4.237). Thus, H_o stands accepted for the effect of state on the impact of Process factor of B.Ed. programme on teacher educators.

Hence, the states of Punjab, Himachal Pradesh, and Haryana have no significant impact of the Process factor of B.Ed. programme on teacher educators.

Main Effect of Type of Institution on the Impact of Process Factor of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of type of institution on the impact of Process factor of B.Ed. programme on teacher educators of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{Process - TOI (2, 111)} = 1.69$ is not significant at $\alpha = .05$ (table 4.237). Thus, H_o stands accepted for the effect of type of institution on the impact of Process factor of B.Ed. programme on teacher educators.

Hence, the government, grant-in-aid, and self-financed colleges of education do not have significant differences on the impact of the Process factor of B.Ed. programme on teacher educators.

Interaction Effect of State and Type of Institution on the Impact of Process Factor of B.Ed. Programme on Teacher Educators

In Table 4.237, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of Process factor of B.Ed. programme on teacher educators is found to be significant, as the values of $F_{Process - State\ x\ TOI (4, 111)} = 4.46$ is significant at $\alpha = .01$. Thus, H_o stands not accepted for the interaction

effect of state and type of institution on the impact of Process factor of B.Ed. programme on teacher educators.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of Process factor of B.Ed. programme on teacher educators varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.244 below:

Table 4.244

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Process Factor of B.Ed. Programme on Teacher Educators

Type of Institution ↓	State →	Punjab	Himachal Pradesh	Haryana
Government		$N_1 = 15$ $M_1 = 52.53$	$N_2 = 05$ $M_2 = 47.00$	$N_3 = 15$ $M_3 = 47.87$
Grant-in Aid		$N_4 = 15$ $M_4 = 45.73$	$N_5 = 05$ $M_5 = 53.40$	$N_6 = 15$ $M_6 = 50.53$
Self-Financed		$N_7 = 25$ $M_7 = 52.44$	$N_8 = 05$ $M_8 = 48.60$	$N_9 = 20$ $M_9 = 54.55$

N = Number of PTs and M = Mean Scores

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H$_o$:   There is no significant interaction effect of state and type of institution on the impact of Process factor of B.Ed. programme on teacher educators.

All the comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh, and type of institution at Haryana respectively are non-significant as is shown in table 4.245.

Table 4.245

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Process Factorof B.Ed. Programme on Teacher Educators

Type of Institution – Government Colleges of Education (GCE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean⟶	52.53	47.00	47.87
Punjab	52.53	-	5.53	4.66
Himachal Pradesh	47.00		-	.87
Haryana	47.87			-
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean⟶	45.73	53.40	50.53
Punjab	45.73	-	7.67	4.80
Himachal Pradesh	53.40		-	2.87
Haryana	50.53			-
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean⟶	52.44	48.60	54.55
Punjab	52.44	-	3.84	2.11
Himachal Pradesh	48.60		-	5.95
Haryana	54.55			-
State - Punjab (PB)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean⟶	52.53	45.73	52.44
Government	52.53	-	6.80	.09
Grant-in Aid	45.73		-	6.71
Self-Financed	52.44			-
State - Himachal Pradesh (HP)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean⟶	47.00	53.40	48.60
Government	47.00	-	6.40	1.60
Grant-in Aid	53.40		-	4.80
Self-Financed	48.60			-
State – Haryana (HR)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean⟶	47.87	50.53	54.55
Government	47.87	-	2.66	6.68
Grant-in Aid	50.53		-	4.02
Self-Financed	54.55			-

$q_{k\,at\,.05}$ = 4.24 & HSD or Q $_{critical\,at\,.05}$ = 8.13; $q_{k\,at\,.01}$ = 5.01 & HSD or Q $_{critical\,at\,.01}$ = 9.61; **α = .01 and *α = .05

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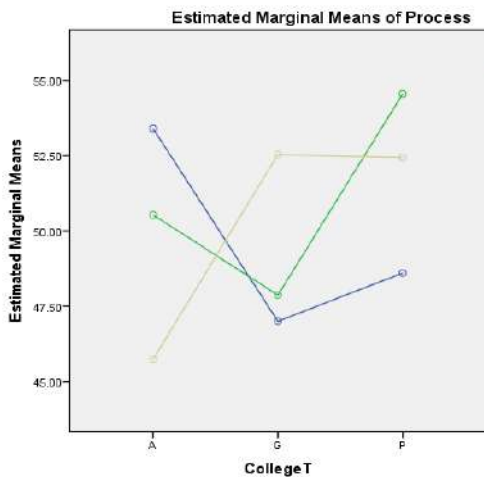
4.123-A (College =Constant)   **4.123-B (State=Constant)**
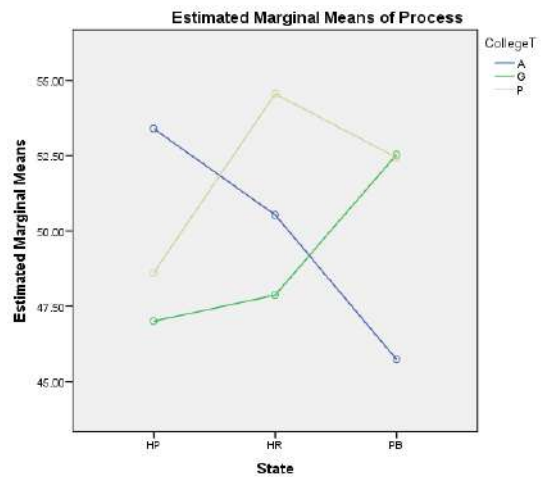
Figure 4.123 Interaction Effect of State (4.123-A) and Type of Institution (4.123-B) on the Impact of Process Factor of B.Ed. Programme on Teacher Educators

For significant interaction of State x Type of Institution, Tukey's HSD test shows that –

➢ For impact of B.Ed. programme on teacher educators w. r. t. state (table 4.245 and figure 4.123-A) (i) at GCE comparisons of means - PB > HP (M_{PB-HP} = 5.53 ns); HR > HP (M_{HR-HP} = .87 ns); and PB > HR (M_{PB-HR} = 4.66 ns) are non significant at α = .05; (ii) at GIACE comparisons of means - HP > PB (M_{HP-PB} = 7.67 ns); HP > HR (M_{HP-HR} = 2.87 ns); and HR > PB (M_{HR-PB} = 4.80 ns) are non significant at α = .05; (iii) at SFCE comparisons of means - PB > HP (M_{PB-HP} = 3.84 ns); HR > PB (M_{HR-PB} = 2.11 ns); and HR > HP (M_{HR-HP} = 5.95 ns) are non significant at α = .05.

Thus, the effect of the state is independent of the type of institution.

➢ For impact of B.Ed. programme on teacher educators w. r. t. type of institution (table 4.245 and figure 4.123-B) (i) at PB comparisons GCE > SFCE ($M_{GCE-SFCE}$ = .09 ns); GCE > GIACE ($M_{GCE-GIACE}$ = 6.80 ns); and SFCE > GIACE ($M_{SFCE-GIACE}$ = 6.71 ns) are non significant at α = .05; (ii) at HP comparisons of means - GIACE > GCE ($M_{GIACE-GCE}$ = 6.40 ns); SFCE > GCE ($M_{SFCE-GCE}$ = 1.60 ns);

and GIACE > SFCE ($M_{\text{GIACE} - \text{SFCE}}$ = 4.80 ns) are non significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE ($M_{\text{GIACE} - \text{GCE}}$ = 2.66 ns); SFCE > GIACE ($M_{\text{SFCE} - \text{GIACE}}$ = 4.02 ns); and SFCE > GCE ($M_{\text{SFCE} - \text{GCE}}$ = 6.68 ns) are non significant at α = .05.

Thus, the effect of the type of institution is independent of the state.

Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of Process factor of B.Ed. programme on teacher educators.

Hence, state and type of institution independently as well as together have no significant effect on the impact of Process factor of B.Ed. programme on teacher educators.

4.2.2.3.4   **Main and Interaction Effect of State and Type of Institution on the Impact of Product Factor of B.Ed. Programme on Teacher Educators**

Main Effect of State on the Impact of Product Factor of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of state on the impact of Product factor of B.Ed. programme on teacher educators of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{\text{Product - State}(2, 111)}$ = 1.34 is not significant at α = .05 (table 4.237). Thus, H_o stands accepted for the effect of state on the impact of Product factor of B.Ed. programme on teacher educators.

Hence, the states of Punjab, Himachal Pradesh, and Haryana have no significant differences on the impact of the Product factor of B.Ed. programme on teacher educators.

Main Effect of Type of Institution on the Impact of Product Factor of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of type of institution on the impact of Product factor of B.Ed. programme on teacher educators of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{\text{Product} - \text{TOI} (2, 111)}$ = .40 is not significant at α = .05 (table 4.237). Thus, H_o stands accepted for the effect of type of institution on the impact of Product factor of B.Ed. programme on teacher educators.

Hence, the government, grant-in-aid, and self-financed colleges of education do not have significant differences on the impact of the Product factor of B.Ed. programme on teacher educators.

Interaction Effect of State and Type of Institution on the Impact of Product Factor of B.Ed. Programme on Teacher Educators

In table 4.237, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of Product factor of B.Ed. programme on teacher educators is found to be significant, as the values of $F_{Product - State \, x \, TOI \, (4, \, 111)} = 3.42$ is significant at $\alpha = .05$. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of Product factor of B.Ed. programme on teacher educators.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of Product factor of B.Ed. programme on teacher educators varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.246.

Table 4.246

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Product Factor of B.Ed. Programme on Teacher Educators

Type of Institution↓ State→	Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 15$ $M_1 = 51.00$	$N_2 = 05$ $M_2 = 45.20$	$N_3 = 15$ $M_3 = 47.07$
Grant-in Aid	$N_4 = 15$ $M_4 = 43.93$	$N_5 = 05$ $M_5 = 50.40$	$N_6 = 15$ $M_6 = 50.53$
Self-Financed	$N_7 = 25$ $M_7 = 47.80$	$N_8 = 05$ $M_8 = 48.60$	$N_9 = 20$ $M_9 = 51.25$

N = Number of PTs and M = Mean Scores

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

Table 4.247

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Product Factorof B.Ed. Programme on Teacher Educators

Type of Institution – Government Colleges of Education (GCE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean⟶	51.00	45.20	47.07
Punjab	51.00	-	5.80	3.93
Himachal Pradesh	45.20		-	1.87
Haryana	47.07			-
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean⟶	43.93	50.40	50.53
Punjab	43.93	-	6.47	6.60
Himachal Pradesh	50.40		-	.13
Haryana	50.53			-
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean⟶	47.80	48.60	51.25
Punjab	47.80	-	.08	3.45
Himachal Pradesh	48.60		-	2.65
Haryana	51.25			-
State - Punjab (PB)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean⟶	51.00	43.93	47.80
Government	51.00	-	7.07	3.20
Grant-in Aid	43.93		-	3.87
Self-Financed	47.80			-
State - Himachal Pradesh (HP)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean⟶	45.20	50.40	48.60
Government	45.20	-	5.20	3.40
Grant-in Aid	50.40		-	1.80
Self-Financed	48.60			-
State – Haryana (HR)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean⟶	47.07	50.53	51.25
Government	47.07	-	3.46	4.18
Grant-in Aid	50.53		-	.72
Self-Financed	51.25			-

$q_{k \, at \, .05} = 4.24$ & HSD or $Q_{critical \, at \, .05} = 8.77$; $q_{k \, at \, .01} = 5.01$ & HSD or $Q_{critical \, at \, .01} = 10.36$; [**]$\alpha = .01$ and [*] $\alpha = .05$

H$_0$:   There is no significant interaction effect of state and type of institution on the impact of Product factor of B.Ed. programme on teacher educators.

All the comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh, and type of institution at Haryana respectively are non-significant as is shown in table 4.247.

4.124-A (College =Constant)　　　　　**4.124-B (State=Constant)**

Figure 4.124 Interaction Effect of State (4.124-A) and Type of Institution (4.124-B) on the Impact of Product Factor of B.Ed. Programme on Teacher Educators

For significant interaction of State x Type of Institution, Tukey's HSD test shows that –

➢ For impact of B.Ed. programme on teacher educators w. r. t. state (table 4.247 and figure 4.124-A) (i) at GCE comparisons of means - PB > HP (M $_{PB – HP}$ = 5.80 ns); HR > HP (M $_{HR – HP}$ = 1.87 ns); and PB > HR (M $_{PB – HR}$ = 3.93 ns) are non significant at α = .05; (ii) at GIACE comparisons of means - HP > PB (M $_{HP – PB}$ = 6.47 ns); HR > HP (M $_{HR – HP}$ = .13 ns); and HR > PB (M $_{HR –PB}$ = 6.60 ns) are non significant at α = .05; (iii) at SFCE comparisons of means - HP > PB (M $_{PB – HP}$ = .80 ns); HR > PB (M $_{HR – PB}$ = 3.45 ns); and HR > HP (M $_{HR – HP}$ = 2.65 ns) are non significant at α = .05.

Thus, the effect of the state is independent of the type of institution.

- For impact of B.Ed. programme on teacher educators w. r. t. type of institution (table 4.247 and figure 4.124-B) (i) at PB comparisons GCE > SFCE ($M_{GCE-SFCE}$ = 3.20 ns); GCE > GIACE ($M_{GCE-GIACE}$ = 7.07 ns); and SFCE > GIACE ($M_{SFCE-GIACE}$ = 3.87 ns) are non significant at α = .05; (ii) at HP comparisons of means - GIACE > GCE ($M_{GIACE-GCE}$ = 5.20 ns); SFCE > GCE ($M_{SFCE-GCE}$ = 3.40 ns); and GIACE > SFCE ($M_{GIACE-SFCE}$ = 1.80 ns) are non significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE ($M_{GIACE-GCE}$ = 3.46 ns); SFCE > GIACE ($M_{SFCE-GIACE}$ = .72 ns); and SFCE > GCE ($M_{SFCE-GCE}$ = 4.18 ns) are non significant at α = .05.

Thus, the effect of the type of institution is independent of the state.

Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of Product factor of B.Ed. programme on teacher educators.

Hence, state and type of institution independently as well as together have no significant effect on the impact of Product factor of B.Ed. programme on teacher educators.

4.2.2.3.5 Effect of Type of Self-Financed Institution on the Factorwise Impact of B.Ed. Programme on Teacher Educators

t-test (independent samples) was applied to study the effect of a single independent variable i.e., type of self-financed institution on a single dependent variable i.e., the factorwise impact of B.Ed. programme (IBP) on teacher educators on the data obtained in terms of rating scores of teacher educators on ESIBP (factorwise data) after the computation of means and standard deviations. The term type of self-financed institution, here, refers to two types of self-financed institutions i.e., self-financed institutions affiliated to state government universities (SFISGU) and self-financed institutions affiliated to private universities (SFIPU) (table 4.248).

The significance of the difference between means of the impact of four factors, i.e., Context, Input, Process, and Product factors, of B.Ed. programme in case of teacher educators with respect to the type of self-financed institution have been computed, compared, and tested against the following null hypothesis:

H$_o$:   There is no significant difference in the factorwise impact of B.Ed. programme on teacher educators with respect to the type of self-financed institution.

Table 4.247A

Means Matrices Showing Significance of Difference in Means regarding the Factorwise Impact of B.Ed. Programme on Teacher Educators with respect to Type of Self-Financed Institution

Sr. No.	Factors of B.Ed. Programme	University			SFISGU	SFIPU
			N	Mean SD	27.03 2.95	27.53 2.85
1.	Context	SFISGU	35	27.03 2.95	-	.56
		SFIPU	15	27.53 2.85	-	-
2.	Input			Mean SD	46.74 4.37	46.60 4.55
		SFISGU	35	46.74 4.37	-	.11
		SFIPU	15	46.60 4.55	-	-
3.	Process			Mean SD	53.23 5.50	52.13 3.74
		SFISGU	35	53.23 5.50	-	.70
		SFIPU	15	52.13 3.74		-
4.	Product			Mean SD	50.03 4.99	47.47 5.66
		SFISGU	35	50.03 4.99	-	1.60
		SFIPU	15	47.47 5.66		-

$^{**}α = .01$ *and* $^{*}α = .05$

4.2.2.3.5.1   Effect of Type of Self-Financed Institution on the Impact of Context Factor of B.Ed. Programme on Teacher Educators

The comparison of means on the impact of Context factor of B.Ed. programme on teacher educators is between the self-financed institutions affiliated to state government

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universities (M_{SFISGU} = 27.03) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 27.53), as the value of t $_{(48)}$ = .56 is not significant at α = .05 (table 4.247A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant impact of the Context factor of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of the Context factor of B.Ed. programme on teacher educators.

4.2.2.3.5.2 Effect of Type of Self-Financed Institution on the Impact of Input Factor of B.Ed. Programme on Teacher Educators

The comparison of means on the impact of Input factor of B.Ed. programme on teacher educators is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 46.74) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 46.60), as the value of t $_{(48)}$ = .11 is not significant at α = .05 (table 4.247A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant impact of the Input factor of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of the Input factor of B.Ed. programme on teacher educators.

4.2.2.3.5.3 Effect of Type of Self-Financed Institution on the Impact of Process Factor of B.Ed. Programme on Teacher Educators

The comparison of means on the impact of Process factor of B.Ed. programme on teacher educators is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 53.23) vs self-financed institutions affiliated to private

universities (M_{SFIPU} = 52.13), as the value of t $_{(48)}$ = .70 is not significant at α = .05 (table 4.247A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant impact of the Process factor of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of the Process factor of B.Ed. programme on teacher educators.

4.2.2.3.5.4 Effect of Type of Self-Financed Institution on the Impact of Product Factor of B.Ed. Programme on Teacher Educators

The comparison of means on the impact of Product factor of B.Ed. programme on teacher educators is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 50.03) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 47.47), as the value of t $_{(48)}$ = 1.60 is not significant at α = .05 (table 4.247A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant impact of the Product factor of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of the Product factor of B.Ed. programme on teacher educators.

4.2.2.4 Effect of University on the Factorwise Impact of B.Ed. Programme on Teacher Educators

t-test (independent samples) was applied to study the effect of a single independent variable i.e., university on a single dependent variable i.e., the factorwise impact of B.Ed. programme (IBP) on teacher educators on the data obtained in terms of rating scores of teacher educators on ESIBP (factorwise data) after the computation of means and standard

deviations. The term university, here, refers to two universities i.e., state government universities (SGU) and private universities (PU) (table 4.248).

Table 4.248

Means Matrices Showing Significance of Difference in regarding the Factorwise Impact of B.Ed. Programme on Teacher Educators with respect to University

Sr. No.	Factors of B.Ed. Programme	University			SGU	PU
			N	Mean SD	25.54 3.89	27.53 2.85
1	Context	SGU	105	25.54 3.89	-	1.91
		PU	15	27.53 2.85		-
2	Input			Mean SD	44.18 5.53	46.60 4.55
		SGU	105	44.18 5.53	-	1.62
		PU	15	46.60 4.55		-
3	Process			Mean SD	50.62 6.69	52.13 3.74
		SGU	105	50.62 6.69	-	.86
		PU	15	52.13 3.74		-
4	Product			Mean SD	48.73 6.75	47.47 5.66
		SGU	105	48.73 6.75	-	.69
		PU	15	47.47 5.66		-

[**] $\alpha = .01$ *and* [*] $\alpha = .05$

The significance of the difference between means of the impact of four factors, i.e., Context, Input, Process, and Product factors, of B.Ed. programme in case of teacher educators with respect to university have been computed, compared, and tested against the following null hypothesis:

H_o: There is no significant difference in the factorwise impact of B.Ed. programme on teacher educators with respect to the university.

4.2.2.4.1   Effect of University on the Impact of Context Factor of B.Ed. Programme on Teacher Educators

The comparison of means on the impact of Context factor of B.Ed. programme on teacher educators is between the grant-in-aid (M_{SGU} = 25.54) vs self-financed universities (M_{PU} = 27.53), as the value of t $_{(118)}$ = 1.91 is not significant at α = .05 (table 4.248). Therefore, the state government universities and private universities have no significant impact of the Context factor of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of the Context factor of B.Ed. programme on teacher educators.

4.2.2.4.2   Effect of University on the Impact of Input Factor of B.Ed. Programme on Teacher Educators

The comparison of means on the impact of Input factor of B.Ed. programme on teacher educators is between the grant-in-aid (M_{SGU} = 44.18) vs self-financed universities (M_{PU} = 46.60), as the value of t $_{(118)}$ = 1.62 is not significant at α = .05 (table 4.248). Therefore, the state government universities and private universities have no significant impact of the Input factor of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of the Input factor of B.Ed. programme on teacher educators.

4.2.2.4.3   Effect of University on the Impact of Process Factor of B.Ed. Programme on Teacher Educators

The comparison of means on the impact of Process factor of B.Ed. programme on teacher educators is between the grant-in-aid (M_{SGU} = 50.62) vs self-financed universities (M_{PU} = 52.13), as the value of t $_{(118)}$ = .86 is not significant at α = .05 (table 4.248). Therefore, the state government universities and private universities have no significant impact of the

Process factor of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of the Process factor of B.Ed. programme on teacher educators.

4.2.2.4.4   Effect of University on the Impact of Product Factor of B.Ed. Programme on Teacher Educators

The comparison of means on the impact of Product factor of B.Ed. programme on teacher educators is between the grant-in-aid ($M_{SGU} = 48.73$) vs self-financed universities ($M_{PU} = 47.47$), as the value of t $_{(118)} = .69$ is not significant at $\alpha = .05$ (table 4.248). Therefore, the state government universities and private universities have no significant impact of the Product factor of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of the Product factor of B.Ed. programme on teacher educators.

4.2.2.5 Effect of State and Type of Institution on the Dimensionwise Impact of B.Ed. Programme on Teacher Educators

To study the effect of two independent variables i.e., state and type of institution on a single dependent variable i.e., the dimensionwise impact of B.Ed. programme (IBP) on teacher educators, a two-way ANOVA i.e., 3 (levels of state) and 3 (levels of institution) was applied on the data obtained in terms of rating scores of teacher educators on ESIBP (dimensionwise data) after the computation of means and standard deviations for each level. The term state, here, refers to three states i.e., the state of Punjab (PB), Himachal Pradesh (HP), and Haryana (HR), and the term type of institution (TOI), here, refers to three types of institutions i.e., the Government (GCE), Grant-In-Aid (GIACE) and Self-Financed (SFCE) Colleges of Education (table 4.249).

Table 4.249
Descriptive Statistics and Summary of Two-Way (3 x 3) ANOVA for the Dimensionwise Impact of B.Ed. Programme on Teacher Educators with respect to the State and Type of Institution (TOI)

Sr. No.	Dimensions	Category	Group	N	Mean	SD	SOV	df	SS	MS	F-ratio
1	*Mission & Vision (MV)*	State	HP	15	12.73	1.33	State	2	.25	.12	.53
			HR	50	13.28	2.22	TOI	2	.61	.30	1.31
			PB	55	13.09	2.08	State x TOI	4	3.95	.99	**4.27**[**]
		TOI	GCE	35	13.03	2.32	Error	111	25.69	.23	
			GIACE	35	12.51	2.01	Total	119			
			SFCE	50	13.62	1.79					
2	*Programme Objectives (PO)*	State	HP	15	12.27	1.49	State	2	1.42	.71	**3.31**[*]
			HR	50	13.12	2.19	TOI	2	1.93	.96	**4.49**[*]
			PB	55	12.36	2.08	State x TOI	4	2.91	.73	**3.39**[*]
		TOI	GCE	35	12.11	2.34	Error	111	23.84	.22	
			GIACE	35	11.94	2.21	Total	119			
			SFCE	50	13.56	1.40					
3	*Academic Input (AI)*	State	HP	15	6.20	.78	State	2	.17	.09	.37
			HR	50	6.48	1.11	TOI	2	.56	.28	1.22
			PB	55	6.40	1.01	State x TOI	4	3.37	.84	**3.70**[**]
		TOI	GCE	35	6.14	1.12	Error	111	25.31	.23	
			GIACE	35	6.20	1.05	Total	119			
			SFCE	50	6.74	.85					
4	*Training Input (TI)*	State	HP	15	15.00	2.33	State	2	.65	.32	1.73
			HR	50	16.24	2.16	TOI	2	.49	.24	1.30
			PB	55	15.86	2.32	State x TOI	4	2.46	.62	**3.28**[*]
		TOI	GCE	35	15.69	2.65	Error	111	20.82	.19	
			GIACE	35	15.54	2.13	Total	119			
			SFCE	50	16.32	2.05					

[**]$\alpha = .01$ *and* [*]$\alpha = .05$

Table 4.249

Descriptive Statistics and Summary of Two-Way (3 x 3) ANOVA for the Dimensionwise Impact of B.Ed. Programme on Teacher Educators with respect to the State and Type of Institution (TOI)

Sr. No.	Dimensions	Category	Group	N	Mean	SD	SOV	df	SS	MS	F-ratio
5	*Resource Input (RI)*	State	HP	15	6.60	.91	State	2	.47	.24	.96
			HR	50	6.72	1.09	TOI	2	1.32	.66	2.71
			PB	55	6.49	1.05	State x TOI	4	2.31	.58	2.37
		TOI	GCE	35	6.57	1.01	Error	111	27.04	.24	
			GIACE	35	6.17	.92	Total	119			
			SFCE	50	6.92	1.07					
6	*Professional Input (PI)*	State	HP	15	9.07	1.34	State	2	.40	.20	.89
			HR	50	9.72	1.70	TOI	2	1.24	.62	2.75
			PB	55	9.53	1.45	State x TOI	4	2.30	.57	**2.55**[*]
		TOI	GCE	35	9.03	1.30	Error	111	24.97	.23	
			GIACE	35	9.14	1.79	Total	119			
			SFCE	50	10.20	1.31					
7	*Evaluation Input (EI)*	State	HP	15	5.73	1.28	State	2	1.39	.70	1.87
			HR	50	6.26	1.37	TOI	2	4.07	2.04	**5.49**[**]
			PB	55	5.87	1.26	State x TOI	4	3.45	.86	2.32
		TOI	GCE	35	5.63	1.29	Error	111	41.17	.37	
			GIACE	35	5.69	1.57	Total	119			
			SFCE	50	6.52	.95					
8	*Pedagogical Process (PDP)*	State	HP	15	15.60	1.60	State	2	.30	.15	.96
			HR	50	16.42	2.14	TOI	2	.46	.23	1.44
			PB	55	15.96	2.34	State x TOI	4	3.29	.82	**5.19**[**]
		TOI	GCE	35	15.86	2.21	Error	111	17.56	.16	
			GIACE	35	15.49	2.33	Total	119			
			SFCE	50	16.72	1.92					

[**]*α = .01 and* [*]*α = .05*

Table 4.249
Descriptive Statistics and Summary of Two-Way (3 x 3) ANOVA for the Dimensionwise Impact of B.Ed. Programme on Teacher Educators with respect to the State and Type of Institution (TOI)

Sr. No.	Dimensions	Category	Group	N	Mean	SD	SOV	df	SS	MS	F-ratio
9	*Evaluation Process (EP)*	State	HP	15	9.33	1.05	State	2	.24	.12	.53
			HR	50	9.74	1.43	TOI	2	.20	.10	.44
			PB	55	9.56	1.60	State x TOI	4	1.89	.47	2.08
		TOI	GCE	35	9.43	1.56	Error	111	25.11	.23	
			GIACE	35	9.31	1.83	Total	119			
			SFCE	50	9.94	.99					
10	*Professional Process (PP)*	State	HP	15	16.07	1.91	State	2	.07	.04	.19
			HR	50	16.08	2.42	TOI	2	.83	.42	2.26
			PB	55	15.89	2.34	State x TOI	4	2.57	.64	**3.50**[**]
		TOI	GCE	35	15.63	2.51	Error	111	20.41	.18	
			GIACE	35	15.23	2.16	Total	119			
			SFCE	50	16.78	2.04					
11	*Training Process (TP)*	State	HP	15	8.67	1.59	State	2	.31	.15	.70
			HR	50	9.10	1.52	TOI	2	.72	.36	1.64
			PB	55	9.22	1.42	State x TOI	4	3.16	.79	**3.60**[**]
		TOI	GCE	35	8.83	1.93	Error	111	24.34	.22	
			GIACE	35	8.86	1.24	Total	119			
			SFCE	50	9.46	1.20					
12	*Academic & Non-Academic Responsibilities Product (ANAPr)*	State	HP	15	17.93	1.75	State	2	.49	.25	1.47
			HR	50	18.46	2.87	TOI	2	.13	.07	.39
			PB	55	17.56	2.30	State x TOI	4	1.39	.35	2.08
		TOI	GCE	35	17.97	2.50	Error	111	18.57	.17	
			GIACE	35	17.57	2.96	Total	119			
			SFCE	50	18.28	2.17					

[**]$\alpha = .01$ and [*]$\alpha = .05$

Table 4.249
Descriptive Statistics and Summary of Two-Way (3 x 3) ANOVA for the Dimensionwise Impact of B.Ed. Programme on Teacher Educators with respect to the State and Type of Institution (TOI)

Sr. No.	Dimensions	Category	Group	N	Mean	SD	SOV	df	SS	MS	F-ratio
13	*Resource Consultation Product (RCPr)*	State	HP	15	8.87	1.51	State	2	.64	.32	1.25
			HR	50	9.58	1.34	TOI	2	.87	.43	1.68
			PB	55	9.44	1.76	State x TOI	4	3.27	.82	**3.18[*]**
		TOI	GCE	35	9.29	1.67	Error	111	28.60	.26	
			GIACE	35	9.49	1.79	Total	119			
			SFCE	50	9.48	1.34					
14	*Professional Training Product (PTPr)*	State	HP	15	9.00	1.51	State	2	1.53	.76	2.53
			HR	50	9.44	1.73	TOI	2	.36	.18	.60
			PB	55	8.67	1.74	State x TOI	4	3.78	.94	**3.13^{**}**
		TOI	GCE	35	8.94	1.80	Error	111	33.52	.30	
			GIACE	35	8.77	2.00	Total	119			
			SFCE	50	9.28	1.47					
15	*Evaluation Responsibilities Product (ERPr)*	State	HP	15	6.27	.59	State	2	.10	.05	.22
			HR	50	6.32	.98	TOI	2	.38	.19	.86
			PB	55	6.20	1.04	State x TOI	4	2.45	.61	**2.79[*]**
		TOI	GCE	35	6.51	.95	Error	111	24.34	.22	
			GIACE	35	6.09	1.04	Total	119			
			SFCE	50	6.20	.90					
16	*Social Responsibilities Product (SRPr)*	State	HP	15	6.00	.85	State	2	.43	.21	.68
			HR	50	5.98	1.15	TOI	2	.12	.06	.20
			PB	55	5.75	1.22	State x TOI	4	3.32	.83	**2.64[*]**
		TOI	GCE	35	5.77	1.24	Error	111	35.01	.32	
			GIACE	35	5.77	1.37	Total	119			
			SFCE	50	6.02	.89					

^{**}$\alpha = .01$ *and* [*]$\alpha = .05$

The significance of differences between means of sixteen dimensions, i.e., Mission & Vision(MV); Programme Objectives (PO); Academic Input (AI); Training Input(TI); Resource Input (RI); Professional Input (PI); Evaluation Input (EI); Pedagogical Process (PDP); Evaluation Process (EP); Professional Process (PP); Training Process (TP); Academic & Non-Academic Responsibilities Product (ANARPr); Resource Consultation Product (RCPr); Professional Training Product (PTPr); Evaluation Responsibilities Product (ERPr); and Social Responsibilities Product (SRPr) of four factors i.e., Context, Input, Process, and Product factors, of B.Ed. programme (in case of teacher educators with respect to state and type of institution) have been computed, compared, and tested against the following null hypotheses:

H_o: There is no significant main effect of state on the dimensionwise impact of B.Ed. programme on teacher educators.

H_o: There is no significant main effect of type of institution on the dimensionwise impact of B.Ed. programme on teacher educators.

H_o: There is no significant interaction effect of state and type of institution on the dimensionwise impact of B.Ed. programme on teacher educators.

4.2.2.5.1   Main and Interaction Effect of State and Type of Institution on the Impact of Mission & Vision Dimensionof B.Ed. Programme on Teacher Educators

Main Effect of State on the Impact of Mission & Vision Dimension of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of state on the impact of mission & vision (MV) dimension of B.Ed. programme on teacher educators of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{MV - State (2, 111)} = .53$ is not significant at $\alpha = .05$ (table 4.249). Thus, H_o stands accepted for the effect of state on the impact of mission & vision dimension of B.Ed. programme on teacher educators.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant differences on the impact of mission & vision dimension of B.Ed. programme on teacher educators.

Main Effect of Type of Institution on the Impact of Mission & Vision Dimensionof B.Ed. Programme on Teacher Educators

There is a non-significant main effect of type of institution on the impact of mission & vision (MV) dimension of B.Ed. programme on teacher educators of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{MV\text{-}TOI\,(2,\,111)} = 1.31$ is not significant at $\alpha = .05$ (table 4.249). Thus, H_o stands accepted for the effect of type of institution on the impact of mission & vision dimension of B.Ed. programme on teacher educators.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant differences on the impact of mission & vision dimension of B.Ed. programme on teacher educators.

Interaction Effect of State and Type of Institution on the Impact of Mission & Vision Dimensionof B.Ed. Programme on Teacher Educators

In table 4.249, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of mission & vision (MV) dimension of B.Ed. programme on teacher educators is found to be significant, as the value of $F_{MV\text{-}State\,x\,TOI\,(4,\,111)} = 4.27$ is significant at $\alpha = .01$. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of mission & vision dimension of B.Ed. programme on teacher educators.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of mission & vision dimension of B.Ed. Programme on teacher educators varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.250.

Table 4.250

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Mission &

Vision Dimension of B.Ed. Programme on Teacher Educators

Type of Institution↓	State→ Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 15$ $M_1 = 3.43$	$N_2 = 05$ $M_2 = 3.25$	$N_3 = 15$ $M_3 = 3.08$
Grant-in Aid	$N_4 = 15$ $M_4 = 2.82$	$N_5 = 05$ $M_5 = 3.15$	$N_6 = 15$ $M_6 = 3.43$
Self-Financed	$N_7 = 25$ $M_7 = 3.45$	$N_8 = 05$ $M_8 = 3.15$	$N_9 = 20$ $M_9 = 3.41$

N = Number of Teacher Educators and M = Mean Scores

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of mission & vision dimension of B.Ed. programme on teacher educators.

Table 4.251

Means Matrices Showing Significance of Differences in Means of various cells of 3 x

3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of

Mission & Vision Dimension of B.Ed. Programme on Teacher Educators

Type of Institution – Government Colleges of Education (GCE)				
State→		Punjab	Himachal Pradesh	Haryana
↓	↓Mean→	3.43	3.25	3.08
Punjab	3.43	-	.18	.35
Himachal Pradesh	3.25		-	.17
Haryana	3.08			**-**
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State→		Punjab	Himachal Pradesh	Haryana
↓	↓Mean→	2.82	3.15	3.43
Punjab	2.82	-	.33	.61
Himachal Pradesh	3.15		-	.28
Haryana	3.43			**-**

Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	↓**Mean**↗	3.45	3.15	3.41
Punjab	3.45	-	.30	.04
Himachal Pradesh	3.15		-	.26
Haryana	3.41			**-**
State - Punjab (PB)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**↗	3.43	2.82	3.45
Government	3.43	-	.61	.02
Grant-in Aid	2.82		-	.63
Self-Financed	3.45			**-**
State - Himachal Pradesh (HP)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**↗	3.25	3.15	3.15
Government	3.25	-	.10	.10
Grant-in Aid	3.15		-	.00
Self-Financed	3.15			**-**
State – Haryana (HR)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**↗	3.08	3.43	3.41
Government	3.08	-	.35	.33
Grant-in Aid	3.43		-	.02
Self-Financed	3.41			**-**

$q_{k\ at\ .05} = 4.24$ & HSD or $Q_{critical\ at\ .05} = .66$; $q_{k\ at\ .05} = 5.01$ & HSD or $Q_{critical\ at\ .01} = .78$; $^{**}\alpha = .01\ and\ ^{*}\alpha = .05$

All the comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh, and type of institution at Haryana respectively which are not significant as is shown in table 4.154.

For significant interaction of State x Type of Institution, Tukey's HSD test shows that –

➢ For impact of B.Ed. programme on teacher educators w. r. t. state (table 4.251 and figure 4.125-A) (i) at GCE comparisons of means - PB > HP (M $_{PB – HP}$ = .18 ns); HP > HR (M $_{HP – HR}$ = .17 ns); and PB > HR (M $_{PB – HR}$ = .35 ns) are non significant at α = .05; (ii) at GIACE comparisons of means - HP > PB (M $_{HP – PB}$ = .33 ns); HR > HP (M $_{HR – HP}$ = .28 ns); and HR > PB (M $_{HR – PB}$ = .61 ns) are non significant at α = .05; (iii) at SFCE comparisons of means - PB > HP (M $_{PB – HP}$ =

.30 ns); PB > HR (M $_{PB - HR}$ = .04 ns); and HR > HP (M $_{HR - HP}$ = .26 ns) are non significant at α = .05.

Thus, the effect of the state is independent of the type of institution.

4.125-A (College =Constant)   4.125-B (State=Constant)
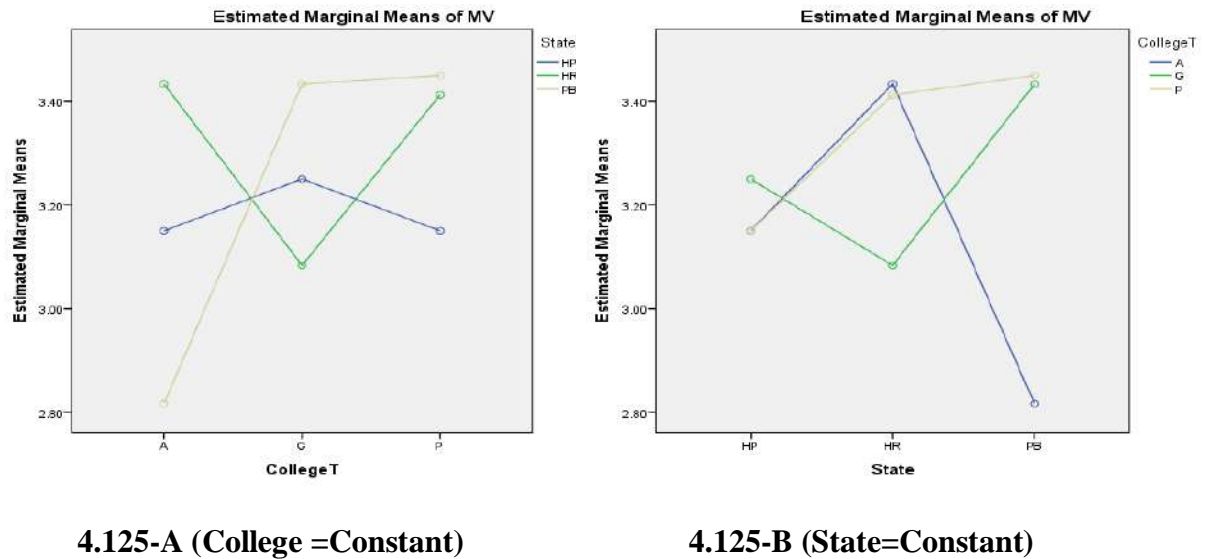
Figure 4.125 Interaction Effect of State (4.125-A) and Type of Institution (4.125-B) on the Impact of Mission & Vision Dimension of B.Ed. Programme on Teacher Educators

➢ For impact of B.Ed. programme on teacher educators w. r. t. type of institution (table 4.251 and figure 4.125-B) (i) at PB comparisons SFCE > GCE (M $_{SFCE - GCE}$ = .02 ns); GCE > GIACE (M $_{GCE - GIACE}$ = .61 ns); and SFCE > GIACE (M $_{SFCE - GIACE}$ = .63 ns) are non significant at α = .05; (ii) at HP comparisons of means - GCE > GIACE (M $_{GCE - GIACE}$ = .10 ns); GCE > SFCE (M $_{GCE - SFCE}$ = .10 ns); and SFCE = GIACE (M $_{SFCE - GIACE}$ = .00 ns) are non significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE (M $_{GIACE - GCE}$ = .35 ns); GIACE > SFCE (M $_{GIACE - SFCE}$ = .02 ns); and SFCE > GCE (M $_{SFCE - GCE}$ = .33 ns) are non significant at α = .05.

Thus, the effect of the type of institution is independent of the state.

Thus, H$_o$ stands accepted for the interaction effect of state and type of institution on the impact of mission & vision dimension of B.Ed. programme on teacher educators.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of mission & vision dimension of B.Ed. programme on teacher educators.

4.2.2.5.2   Main and Interaction Effect of State and Type of Institution on the Impact of Programme Objectives Dimensionof B.Ed. Programme on Teacher Educators

Main Effect of State on the Impact of Programme Objectives Dimensionof B.Ed. Programme on Teacher Educators

There is a significant main effect of state on the impact of programme objectives dimension of B.Ed. programme on teacher educators of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{PO - State (2, 111)} = 3.31$ is significant at $\alpha = .05$ (table 4.249). Thus, H_o stands not accepted for the effect of state on the impact of programme objectives dimension of B.Ed. programme on teacher educators.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have a statistically significant impact of the programme objectives dimension of B.Ed. programme on teacher educators.

Table 4.252

Means Matrix Showing Significance of Difference in Means regarding the Impact of Programme Objectives Dimension of B.Ed. Programme on Teacher Educators with respect to State

State ⟶			Punjab	Himachal Pradesh	Haryana
↓	N	Mean ⟶ SD ↓	12.36 2.08	12.27 1.49	13.12 2.19
Punjab	55	12.36 2.08	-	.19	**1.82***
Himachal Pradesh	15	12.27 1.49		-	**1.72***
Haryana	50	13.12 2.19			-

$^{**}\alpha = .01$ *and* $^{*}\alpha = .05$

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means (table 4.252) and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of programme objectives dimension of B.Ed. programme on teacher educators with respect to the state.

Table 4.252 shows the non-significant mean differences on the impact of programme objectives dimension of B.Ed. Programme between the state of Punjab (M_{PB} = 12.36) vs Himachal Pradesh (M_{HP} = 12.27), as the value of t $_{(68)}$ = .19 is not significant at α = .05; the state of Haryana (M_{HR} = 13.12) vs Himachal Pradesh (M_{HP} = 12.27), as the value of t $_{(63)}$ = 1.72 is significant at α = .05; and the state of Punjab (M_{PB} = 12.36) vs Haryana (M_{HR} = 13.12), as the value of t $_{(103)}$ = 1.82 is significant at α = .05. Thus, H_o stands not accepted for the teacher educators of the state of Haryana vs Himachal and Punjab vs Haryana whereasH_o stands accepted for the teacher educators of the state of Punjab vs Himachal Pradesh.

Hence, the impact of programme objectives dimension of B.Ed. programme is significantly more in Haryana than that of both Punjab and Himachal whereas both Punjab and Himachal Pradesh do not have significant difference on the impact of programme objectives dimension of B.Ed. programme on teacher educators.

Main Effect of Type of Institution on the Impact of Programme Objectives Dimension of B.Ed. Programme on Teacher Educators

There is a significant main effect of type of institution on the impact of programme objectives dimension of B.Ed. programme on teacher educators of the government, grant-in-aid, and self-financed colleges of education, as the value of F $_{PO - TOI (2, 111)}$ = 4.49 is significant at α = .05 (table 4.249). Thus, H_o stands not accepted for the effect of type of institution on the impact of programme objectives dimension of B.Ed. programme on teacher educators.

Hence, the government, grant-in-aid, and self-financed colleges of education have a statistically significant impact of the programme objectives dimension of B.Ed. programme on teacher educators.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of programme objectives dimension of B.Ed. programme on teacher educators w.r.t. the type of institution.

Table 4.253

Means Matrix Showing Significance of Difference in Means regarding the Impact of Programme Objectives Dimension of B.Ed. Programme on Teacher Educators with respect to Type of Institution

Type of Institution ⟶		⟶	Government	Grant-In-Aid	Self-Financed
⬇	N	**Mean** ⟶ **SD** ⬇	12.11 2.34	11.94 2.21	13.56 1.40
Government	35	12.11 2.34	-	.31	**3.28****
Grant-In-Aid	35	11.94 2.21		-	**3.83****
Self-Financed	50	13.56 1.40			-

**$\alpha = .01$ *and* *$\alpha = .05$

Table 4.253 shows the significant mean differences on the impact of programme objectives dimension of B.Ed. Programme between the self-financed ($M_{SFCE} = 13.56$) vs government ($M_{GCE} = 12.11$) colleges of education favouring the self-financed colleges of education, as the value of t $_{(83)}$ = 3.28 is significant at $\alpha = .01$; and the self-financed ($M_{SFCE} = 13.56$) vs grant-in-aid ($M_{GIACE} = 11.94$) colleges of education favouring the self-financed colleges of education, as the value of t $_{(83)}$ = 3.83 is significant at $\alpha = .01$; and non-significant mean difference on the impact of programme objectives dimension of B.Ed. Programme exist between the government ($M_{GCE} = 12.11$) vs grant-in-aid ($M_{GIACE} = 11.94$) colleges of education, as the value of t $_{(68)}$ = .31 is not significant at $\alpha = .05$. Thus, H_o stands not accepted for the teacher educators in the self-financed colleges of education vs government colleges of education and the self-financed colleges of education vs grant-in-aid colleges of education comparisons whereas H_o stands accepted

for the teacher educators in the government colleges of education vs grant-in-aid colleges of education comparison.

Hence, the self-financed colleges of education have significantly more effect than both the grant-in-aid colleges of education and government colleges of education whereas both the grant-in-aid colleges of education and government colleges of education do not have significant difference on the impact of programme objectives dimension of B.Ed. programme on teacher educators.

Interaction Effect of State and Type of Institution on the Impact of Programme Objectives Dimensionof B.Ed. Programme on Teacher Educators

In table 4.249, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of programme objectives dimension of B.Ed. programme on teacher educators is found to be significant, as the values of $F_{PO - State \, x \, TOI \, (4, 111)} = 4.27$ is significant at $\alpha = .05$. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of programme objectives dimension of B.Ed. programme on teacher educators.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of programme objectives dimension of B.Ed. programme on teacher educators varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.254 below:

Table 4.254
Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Programme Objectives Dimension of B.Ed. Programme on Teacher Educators

Type of Institution ↓	State → Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 15$ $M_1 = 3.03$	$N_2 = 05$ $M_2 = 3.20$	$N_3 = 15$ $M_3 = 2.97$
Grant-in Aid	$N_4 = 15$ $M_4 = 2.67$	$N_5 = 05$ $M_5 = 2.90$	$N_6 = 15$ $M_6 = 3.33$
Self-Financed	$N_7 = 25$ $M_7 = 3.38$	$N_8 = 05$ $M_8 = 3.10$	$N_9 = 20$ $M_9 = 3.48$

N = Number of TEs and M = Mean Scores

Table 4.255

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Programme Objectives Dimensionof B.Ed. Programme on Teacher Educators

Type of Institution – Government Colleges of Education (GCE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean→	3.03	3.20	2.97
Punjab	3.03	-	.17	.06
Himachal Pradesh	3.20		-	.23
Haryana	2.97			-
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean→	2.67	2.90	3.33
Punjab	2.67	-	.23	.66[*]
Himachal Pradesh	2.90		-	.43
Haryana	3.33			-
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean→	3.38	3.10	3.48
Punjab	3.38	-	.28	.10
Himachal Pradesh	3.10		-	.38
Haryana	3.48			-
State - Punjab (PB)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean→	3.03	2.67	3.38
Government	3.03	-	.36	.35
Grant-in Aid	2.67		-	.71[*]
Self-Financed	3.38			-
State - Himachal Pradesh (HP)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean→	3.20	2.90	3.10
Government	3.20	-	.30	.10
Grant-in Aid	2.90		-	.20
Self-Financed	3.10			-
State – Haryana (HR)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean→	2.97	3.33	3.48
Government	2.97	-	.36	.51
Grant-in Aid	3.33		-	.15
Self-Financed	3.48			-

$q_{k\ at\ .05}$ = 4.24 & HSD or Q $_{critical\ at\ .05}$ = .65; $q_{k\ at\ .05}$ = 5.01 & HSD or Q $_{critical\ at\ .01}$ = .77; [**]α = .01 and [*] α = .05

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of programme objectives dimension of B.Ed. programme on teacher educators.

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.255.

4.126-A (College =Constant)   4.126-B (State=Constant)

Figure 4.126   Interaction Effect of State (4.126-A) and Type of Institution (4.126-B) on the Impact of Programme Objectives dimension of B.Ed. Programme on Teacher Educators

For significant interaction of State x Type of Institution, Tukey's HSD test shows that –

➤ For impact of B.Ed. programme on teacher educators w. r. t. state (table 4.255 and figure 4.126-A) (i) at GCE comparisons of means - HP > PB (M_{HP-PB} = .17 ns); HP > HR (M_{HP-HR} = .23 ns); and PB > HR (M_{PB-HR} = .06 ns) are non significant at α = .05; (ii) at GIACE comparisons of means - HP > PB (M_{HP-PB} =

579

.23 ns); and HR > HP (M $_{HR-HP}$ = .43 ns) are non significant at α = .05; and HR > PB (M $_{HR-PB}$ = .66*) is significant at α = .05; (iii) at SFCE comparisons of means - PB > HP (M $_{PB-HP}$ = .28 ns); HR > PB (M $_{HR-PB}$ = .10 ns); and HR > HP (M $_{HR-HP}$ = .38 ns) are non significant at α = .05.

Thus, the effect of the state depends on the type of institution.

➢ For impact of B.Ed. programme on teacher educators w. r. t. type of institution (table 4.255 and figure 4.126-B) (i) at PB comparisons SFCE > GCE (M $_{SFCE-GCE}$ = .35 ns); and GCE > GIACE (M $_{GCE-GIACE}$ = .36 ns) are non significant at α = .05; and SFCE > GIACE (M $_{SFCE-GIACE}$ = .71*) is significant at α = .05; (ii) at HP comparisons of means - GCE > GIACE (M $_{GCE-GIACE}$ = .30 ns); GCE > SFCE (M $_{GCE-SFCE}$ = .10 ns); and SFCE > GIACE (M $_{SFCE-GIACE}$ = .20 ns) are non significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE (M $_{GIACE-GCE}$ = .36 ns); SFCE > GIACE (M $_{SFCE-GIACE}$ = .15 ns); and SFCE > GCE (M $_{SFCE-GCE}$ = .51 ns) are non significant at α = .05.

Thus, the effect of the type of institution depends on the state.

Thus, H$_{o}$ stands not accepted for the interaction effect of state and type of institution on the impact of programme objectives dimension of B.Ed. programme on teacher educators.

Hence, the state independently has no significant effect but the type of institution independently as well as state and type of institution together have a significant effect on the impact of programme objectives dimension of B.Ed. programme on teacher educators.

4.2.2.5.3 Main and Interaction Effect of State and Type of Institution on the Impact of Academic Input Dimension of B. Ed. Programme on Teacher Educators

Main Effect of State on the Academic Input Dimensionof B.Ed. Programme on Teacher Educators

There is a non-significant main effect of state on the impact of academic input (AI) dimension of B.Ed. programme on teacher educators of the states of Punjab, Himachal

Pradesh, and Haryana, as the value of $F_{AI - State (2, 111)} = .37$ is not significant at $\alpha = .05$ (table 4.249). Thus, H_o stands accepted for the effect of state on the impact of academic input dimension of B.Ed. programme on teacher educators.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant impact of the academic input dimension of B.Ed. programme on teacher educators.

Main Effect of Type of Institution on the Impact of Academic Input Dimensionof B.Ed. Programme on Teacher Educators

There is a non-significant main effect of type of institution on the impact of academic input (AI) dimension of B.Ed. programme on teacher educators of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{AI - TOI (2, 111)} = 1.22$ is not significant at $\alpha = .05$ (table 4.249). Thus, H_o stands accepted for the effect of type of institution on the impact of academic input dimension of B.Ed. programme on teacher educators.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant impact of the academic input dimension of B.Ed. programme on teacher educators.

Interaction Effect of State and Type of Institution on the Academic Input Dimensionof B.Ed. Programme on Teacher Educators

In table 4.249, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of academic input (AI) dimension of B.Ed. programme on teacher educators is found to be significant, as the values of $F_{AI - State \text{ x } TOI (4, 111)} = 3.70$ is significant at $\alpha = .01$. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of academic input dimension of B.Ed. programme on teacher educators.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of academic input dimension of B.Ed. programme on teacher educators varies due to any one of these (i.e. state and type of institution) independent

variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.256.

Table 4.256

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Academic Input Dimension of B.Ed. Programme on Teacher Educators

Type of Institution ↓ State →	Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 15$ $M_1 = 3.23$	$N_2 = 05$ $M_2 = 3.00$	$N_3 = 15$ $M_3 = 2.93$
Grant-in Aid	$N_4 = 15$ $M_4 = 2.87$	$N_5 = 05$ $M_5 = 3.40$	$N_6 = 15$ $M_6 = 3.23$
Self-Financed	$N_7 = 25$ $M_7 = 3.38$	$N_8 = 05$ $M_8 = 2.90$	$N_9 = 20$ $M_9 = 3.48$

N = Number of TEs and M = Mean Scores

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H$_o$:   There is no significant interaction effect of state and type of institution on the impact of academic input dimension of B.Ed. programme on teacher educators.

Table 4.257

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Academic Input Dimensionof B.Ed. Programme on Teacher Educators

Type of Institution – Government Colleges of Education (GCE)			
State ──────→	Punjab	Himachal Pradesh	Haryana
↓Mean→	3.23	3.00	2.93
Punjab	3.23	-	.23	.30
Himachal Pradesh	3.00		-	.07
Haryana	2.93			-
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)			
State ──────→	Punjab	Himachal Pradesh	Haryana
↓Mean→	2.87	3.40	3.23
Punjab	2.87	-	.53	.36
Himachal Pradesh	3.40		-	.17
Haryana	3.23			-

Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ———————⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
⟶	⟱**Mean**⟶	3.38	2.90	3.48
Punjab	3.38	-	.48	.10
Himachal Pradesh	2.90		-	.58
Haryana	3.48			**-**
State - Punjab (PB)				
Type of Institution———⟶		**Government**	**Grant-in Aid**	**Self-Financed**
⟶	⟱**Mean**⟶	3.23	2.87	3.38
Government	3.23	-	.36	.15
Grant-in Aid	2.87		-	.51
Self-Financed	3.38			**-**
State - Himachal Pradesh (HP)				
Type of Institution———⟶		**Government**	**Grant-in Aid**	**Self-Financed**
⟶	⟱**Mean**⟶	3.00	3.40	2.90
Government	3.00	-	.40	.10
Grant-in Aid	3.40		-	.50
Self-Financed	2.90			**-**
State – Haryana (HR)				
Type of Institution———⟶		**Government**	**Grant-in Aid**	**Self-Financed**
⟶	⟱**Mean**⟶	2.93	3.23	3.48
Government	2.93	-	.30	.55
Grant-in Aid	3.23		-	.25
Self-Financed	3.48			**-**

$q_{k\ at\ .05} = 4.24$ & HSD or $Q_{critical\ at\ .05} = .66$; $q_{k\ at\ .05} = 5.01$ & HSD or $Q_{critical\ at\ .01} = .78$; $^{**}\alpha = .01\ and\ ^{*}\alpha = .05$

All the comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh, and type of institution at Haryana respectively which are not significant as is shown in table 4.257.

For significant interaction of State x Type of Institution, Tukey's HSD test shows that –

➢ For impact of B.Ed. programme on teacher educators w. r. t. state (table 4.257 and figure 4.127-A) (i) at GCE comparisons of means - PB > HP (M $_{PB – HP}$ = .23 ns); HP > HR (M $_{HP – HR}$ = .07 ns); and PB > HR (M $_{PB – HR}$ = .30 ns) are non significant at α = .05; (ii) at GIACE comparisons of means - HP > PB (M $_{HP – PB}$ = .53 ns); HP > HR (M $_{HP – HR}$ = .17 ns); and HR > PB (M $_{HR – PB}$ = .36 ns) are non significant at α = .05; (iii) at SFCE comparisons of means - PB > HP (M $_{PB – HP}$ =

.48 ns); HR > PB ($M_{HR - PB}$ = .10 ns); and HR > HP ($M_{HR - HP}$ = .58 ns) are non significant at α = .05.

Thus, the effect of the state is independent of the type of institution.
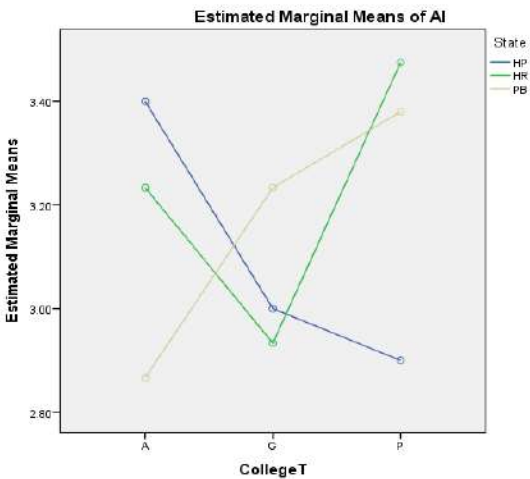
4.127-A (College =Constant)   **4.127-B (State=Constant)**
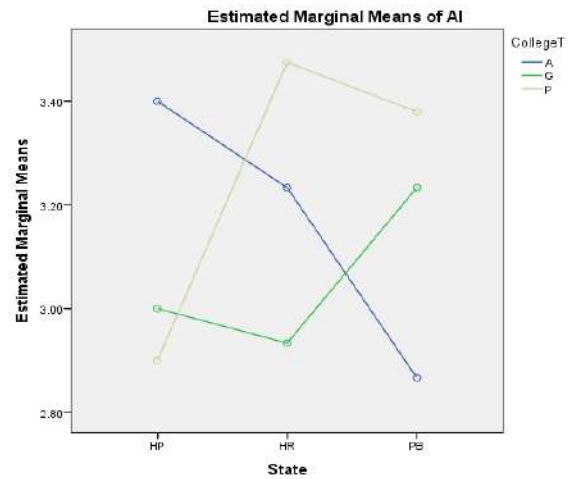
Figure 4.127 Interaction Effect of State (4.127-A) and Type of Institution (4.127-B) on the Impact of Academic Input Dimension of B.Ed. Programme on Teacher Educators

➢ For impact of B.Ed. programme on teacher educators w. r. t. type of institution (table 4.257 and figure 4.127-B) (i) at PB comparisons SFCE > GCE ($M_{SFCE - GCE}$ = .15 ns); GCE > GIACE ($M_{GCE - GIACE}$ = .36 ns); and SFCE > GIACE ($M_{SFCE - GIACE}$ = .51) are non significant at α = .05; (ii) at HP comparisons of means - GIACE > GCE ($M_{GCE - GIACE}$ = .40 ns); GCE > SFCE ($M_{GCE - SFCE}$ = .10 ns); and GIACE > SFCE ($M_{GIACE - SFCE}$ = .50 ns) are non significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE ($M_{GIACE - GCE}$ = .30 ns); SFCE > GIACE ($M_{SFCE - GIACE}$ = .25 ns); and SFCE > GCE ($M_{SFCE - GCE}$ = .55 ns) are non significant at α = .05.

Thus, the effect of the type of institution is independent of the state.

Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of academic input dimension of B.Ed. programme on teacher educators.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of the academic input dimension of B.Ed. programme on teacher educators.

4.2.2.5.4   Main and Interaction Effect of State and Type of Institution on the Impact of Training Input Dimension of B. Ed. Programme on Teacher Educators

Main Effect of State on the Impact of Training Input Dimensionof B.Ed. Programme on Teacher Educators

There is a non-significant main effect of state on the impact of training input (TI) dimension of B.Ed. pogramme on teacher educators of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{TI \text{ - State } (2, 111)} = 1.73$ is not significant at $\alpha = .05$ (table 4.249). Thus, H_o stands accepted for the effect of state on the impact of training input dimension of B.Ed. programme on teacher educators.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant impact of the training input dimension of B.Ed. programme on teacher educators.

Main Effect of Type of Institution on the Impact of Training Input Dimensionof B.Ed. Programme on Teacher Educators

There is a non-significant main effect of type of institution on the impact of training input (TI) dimension of B.Ed. programme on teacher educators of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{TI \text{ - TOI } (2, 111)} = 1.30$ is not significant at $\alpha = .05$ (table 4.249). Thus, H_o stands accepted for the effect of type of institution on the impact of training input dimension of B.Ed. programme on teacher educators.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant impact of the training input dimension of B.Ed. programme on teacher educators.

Interaction Effect of State and Type of Institution on the Impact of Training Input Dimensionof B.Ed. Programme on Teacher Educators

In table 4.249, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of training input (TI) dimension of B.Ed. programme on teacher educators is found to be significant, as the value of $F_{TI - State \, x \, TOI \, (4, \, 111)} = 3.28$ is significant at $\alpha = .05$. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of training input dimension of B.Ed. programme on teacher educators.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of training input dimension of B.Ed. programme on teacher educators varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.258 below:

Table 4.258

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Training Input Dimension of B.Ed. Programme on Teacher Educators

Type of Institution ↓	State → Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 15$ $M_1 = 3.36$	$N_2 = 05$ $M_2 = 2.76$	$N_3 = 15$ $M_3 = 3.04$
Grant-in Aid	$N_4 = 15$ $M_4 = 2.91$	$N_5 = 05$ $M_5 = 3.12$	$N_6 = 15$ $M_6 = 3.31$
Self-Financed	$N_7 = 25$ $M_7 = 3.22$	$N_8 = 05$ $M_8 = 3.12$	$N_9 = 20$ $M_9 = 3.36$

N = Number of TEs and M = Mean Scores

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of training input dimension of B.Ed. programme on teacher educators.

Table 4.259

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Training Input Dimensionof B.Ed. Programme on Teacher Educators

Type of Institution – Government Colleges of Education (GCE)			
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	↓**Mean**⟶	3.36	2.76	3.04
Punjab	3.36	-	**.60**[*]	.32
Himachal Pradesh	2.76		-	.28
Haryana	3.04			**-**

Type of Institution – Grant-in-Aid Colleges of Education (GIACE)			
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	↓**Mean**⟶	2.91	3.12	3.31
Punjab	2.91	-	.21	.40
Himachal Pradesh	3.12		-	.19
Haryana	3.31			**-**

Type of Institution – Self-Financed Colleges of Education (SFCE)			
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	↓**Mean**⟶	3.22	3.12	3.36
Punjab	3.22	-	.10	.14
Himachal Pradesh	3.12		-	.24
Haryana	3.36			**-**

State - Punjab (PB)			
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**⟶	3.36	2.91	3.22
Government	3.36	-	.45	.14
Grant-in Aid	2.91		-	.31
Self-Financed	3.22			**-**

State - Himachal Pradesh (HP)			
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**⟶	2.76	3.12	3.12
Government	2.76	-	.36	.36
Grant-in Aid	3.12		-	0
Self-Financed	3.12			**-**

State – Haryana (HR)			
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**⟶	3.04	3.31	3.36
Government	3.04	-	.27	.32
Grant-in Aid	3.31		-	.05
Self-Financed	3.36			**-**

$q_{k\ at\ .05}$ = 4.24 & HSD or Q $_{critical\ at\ .05}$ = .60; $q_{k\ at\ .05}$ = 5.01 & HSD or Q $_{critical\ at\ .01}$ = .71; [**]α = .01 and [*] α = .05

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.259.
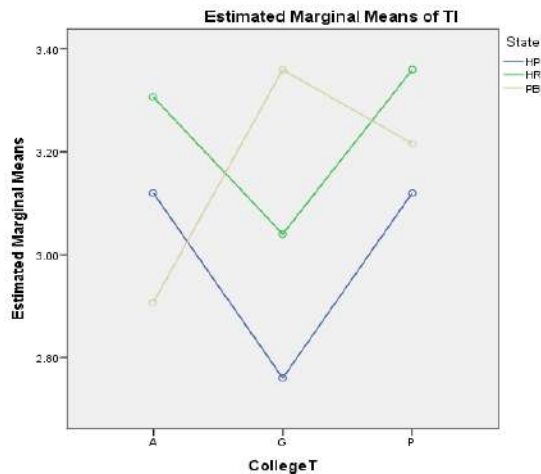
4.128-A (College =Constant)   4.128-B (State=Constant)
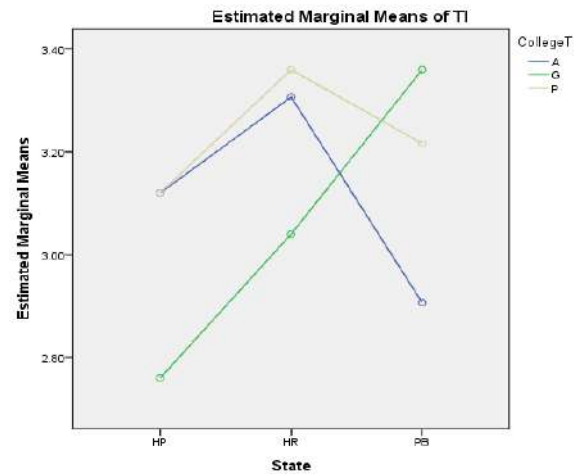
Figure 4.128 Interaction Effect of State (4.128-A) and Type of Institution (4.128-B) on the Impact of Training Input Dimension of B.Ed. Programme on Teacher Educators

For significant interaction of State x Type of Institution, Tukey's HSD test shows that –

➢ For impact of B.Ed. programme on teacher educators w. r. t. state (table 4.259 and figure 4.128-A) (i) at GCE comparisons of means - PB > HP (M $_{PB – HP}$ = .60*) is significant at α = .05; HR > HP (M $_{HR – HP}$ = .28 ns); and PB > HR (M $_{PB – HR}$ = .32 ns) are non significant at α = .05; (ii) at GIACE comparisons of means - HP > PB (M $_{HP – PB}$ = .21 ns); HR > HP (M $_{HR – HP}$ = .19 ns); and HR > PB (M $_{HR –PB}$ = .40 ns) are non significant at α = .05; (iii) at SFCE comparisons of means - PB > HP (M $_{PB – HP}$ = .10 ns); HR > PB (M $_{HR – PB}$ = .14 ns); and HR > HP (M $_{HR – HP}$ = .24 ns) are non significant at α = .05.

Thus, the effect of the state depends on the type of institution.

- For impact of B.Ed. programme on teacher educators w. r. t. type of institution (table 4.259 and figure 4.128-B) (i) at PB comparisons GCE > SFCE (M $_{GCE - SFCE}$ = .14 ns); GCE > GIACE (M $_{GCE - GIACE}$ = .45 ns); and SFCE > GIACE (M $_{SFCE - GIACE}$ = .31 ns) are non significant at α = .05; (ii) at HP comparisons of means - GIACE > GCE (M $_{GIACE - GCE}$ = .36 ns); SFCE > GCE (M $_{SFCE - GCE}$ = .36 ns); and SFCE = GIACE (M $_{SFCE - GIACE}$ = .00 ns) are non significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE (M $_{GIACE - GCE}$ = .27 ns); SFCE > GIACE (M $_{SFCE - GIACE}$ = .05 ns); and SFCE > GCE (M $_{SFCE - GCE}$ = .32 ns) are non significant at α = .05.

  Thus, the effect of the type of institution is independent of the state.

Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of training input dimension of B.Ed. programme on teacher educators.

Hence, both the state and type of institution independently have no significant effect but together have a significant effect on the impact of training input dimension of B.Ed. programme on teacher educators.

4.2.2.5.5   Main and Interaction Effect of State and Type of Institution on the Impact of Resource Input Dimension of B. Ed. Programme on Teacher Educators

Main Effect of State on the Impact of Resource Input Dimension of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of state on the impact of resource input (RI) dimension of B.Ed. programme on teacher educators of the states of Punjab, Himachal Pradesh, and Haryana, as the value of F $_{RI - State (2, 111)}$ = .96 is not significant at α = .05 (table 4.249). Thus, H_o stands accepted for the effect of state on the impact of resource input dimension of B.Ed. programme on teacher educators.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant impact of the resource input dimension of B.Ed. programme on teacher educators.

Main Effect of Type of Institution on the Impact of Resource Input Dimension of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of type of institution on the impact of resource input (RI) dimension of B.Ed. programme on teacher educators of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{RI - TOI (2, 111)} = 2.71$ is not significant at $\alpha = .05$ (table 4.249). Thus, H_o stands accepted for the effect of type of institution on the impact of resource input dimension of B.Ed. programme on teacher educators.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant impact of the resource input dimension of B.Ed. programme on teacher educators.

Interaction Effect of State and Type of Institution on the Impact of Resource Input Dimensionof B.Ed. Programme on Teacher Educators

In table 4.249, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of resource input (RI) dimension of B.Ed. programme on teacher educators is found to be non-significant, as the values of $F_{RI - State \times TOI (4, 111)} = 2.37$ is not significant at $\alpha = .05$. Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of resource input dimension of B.Ed. programme on teacher educators.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of resource input dimension of B.Ed. programme on teacher educators.

4.2.2.5.6   Main and Interaction Effect of State and Type of Institution on the Impact of Professional Input Dimension of B. Ed. Programme on Teacher Educators

Main Effect of State on the Impact of Professional Input Dimensionof B.Ed. Programme on Teacher Educators

There is a non-significant main effect of state on the impact of professional input (PI) dimension of B.Ed. programme on teacher educators of the states of Punjab, Himachal

Pradesh, and Haryana, as the value of $F_{PI - State (2, 111)} = .89$ is not significant at $\alpha = .05$ (table 4.249). Thus, H_o stands accepted for the effect of state on the impact of professional input dimension of B.Ed. programme on teacher educators.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant impact of the professional input dimension of B.Ed. programme on teacher educators.

Main Effect of Type of Institution on the Impact of Professional Input Dimensionof B.Ed. Programme on Teacher Educators

There is a non-significant main effect of type of institution on the impact of professional input (PI) dimension of B.Ed. programme on teacher educators of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{PI - TOI (2, 111)} = 2.76$ is not significant at $\alpha = .05$ (table 4.249). Thus, H_o stands accepted for the effect of type of institution on the impact of professional input dimension of B.Ed. programme on teacher educators.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant impact of the professional input dimension of B.Ed. programme on teacher educators.

Interaction Effect of State and Type of Institution on the Impact of Professional Input Dimensionof B.Ed. Programme on Teacher Educators

In table 4.249, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of professional input (PI) dimension of B.Ed. programme on teacher educators is found to be significant, as the value of $F_{PI - State \times TOI (4, 111)} = 2.56$ is significant at $\alpha = .05$. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of professional input dimension of B.Ed. programme on teacher educators.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of professional input dimension of B.Ed. programme on teacher educators varies due to any one of these (i.e. state and type of institution) independent

variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.260.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of professional input dimension of B.Ed. programme on teacher educators.

Table 4.260

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Professional Input Dimension of B.Ed. Programme on Teacher Educators

Type of Institution ↓	State → Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 15$ $M_1 = 3.13$	$N_2 = 05$ $M_2 = 3.07$	$N_3 = 15$ $M_3 = 2.87$
Grant-in Aid	$N_4 = 15$ $M_4 = 2.91$	$N_5 = 05$ $M_5 = 3.06$	$N_6 = 15$ $M_6 = 3.18$
Self-Financed	$N_7 = 25$ $M_7 = 3.36$	$N_8 = 05$ $M_8 = 2.93$	$N_9 = 20$ $M_9 = 3.57$

N = Number of TEs and M = Mean Scores

Table 4.261

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Professional Input Dimensionof B.Ed. Programme on Teacher Educators

Type of Institution – Government Colleges of Education (GCE)				
State →		Punjab	Himachal Pradesh	Haryana
↓	↓Mean→	3.13	3.07	2.87
Punjab	3.13	-	.06	.26
Himachal Pradesh	3.07		-	.20
Haryana	2.87			**-**
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State →		Punjab	Himachal Pradesh	Haryana
↓	↓Mean→	2.91	3.06	3.18
Punjab	2.91	-	.15	.27
Himachal Pradesh	3.06		-	.12
Haryana	3.18			**-**

Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	↓**Mean**⟶	3.36	2.93	3.57
Punjab	3.36	-	.43	.21
Himachal Pradesh	2.93		-	.64
Haryana	3.57			**-**
State - Punjab (PB)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**⟶	3.13	2.91	3.36
Government	3.13	-	.22	.23
Grant-in Aid	2.91		-	.45
Self-Financed	3.36			**-**
State - Himachal Pradesh (HP)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**⟶	3.07	3.06	2.93
Government	3.07	-	.01	.14
Grant-in Aid	3.06		-	.13
Self-Financed	2.93			**-**
State – Haryana (HR)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**⟶	2.87	3.18	3.57
Government	2.87	-	.31	.07
Grant-in Aid	3.18		-	.39
Self-Financed	3.57			**-**

$q_{k\ at\ .05} = 4.24$ & HSD or $Q_{critical\ at\ .05} = .66$; $q_{k\ at\ .05} = 5.01$ & HSD or $Q_{critical\ at\ .01} = .78$; $^{**}\alpha = .01$ and $^{*}\alpha = .05$

All the comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh, and type of institution at Haryana respectively which are not significant as is shown in table 4.261.

For significant interaction of State x Type of Institution, Tukey's HSD test shows that –

➢ For impact of B.Ed. programme on teacher educators w. r. t. state (table 4.261 and figure 4.129-A) (i) at GCE comparisons of means - PB > HP ($M_{PB – HP} = .06$ ns); HP > HR ($M_{HP – HR} = .20$ ns); and PB > HR ($M_{PB – HR} = .26$ ns) are non significant at $\alpha = .05$; (ii) at GIACE comparisons of means - HP > PB ($M_{HP – PB} = .15$ ns); HR > HP ($M_{HR – HP} = .12$ ns); and HR > PB ($M_{HR –PB} = .27$ ns) are non significant at $\alpha = .05$; (iii) at SFCE comparisons of means - PB > HP ($M_{PB – HP} =$

.43 ns); HR > PB (M $_{HR – PB}$ = .21 ns); and HR > HP (M $_{HR – HP}$ = .64 ns) are non significant at α = .05.

Thus, the effect of the state is independent of the type of institution.
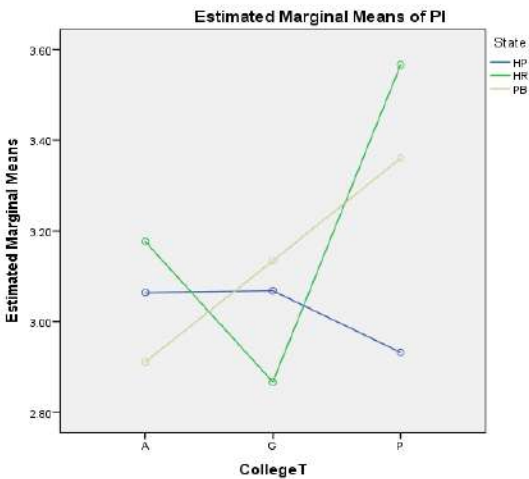
4.129-A (College =Constant)   **4.129-B (State=Constant)**
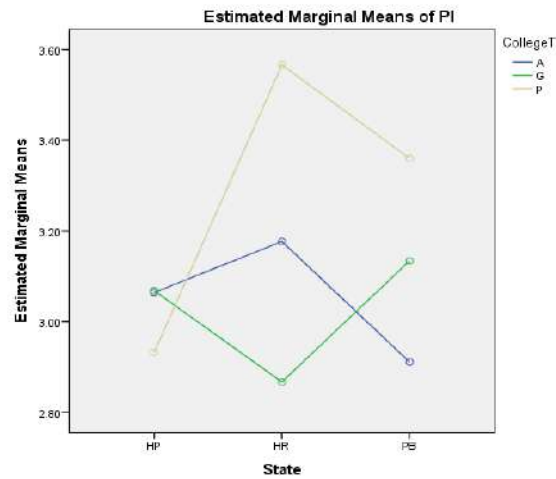
Figure 4.129   Interaction Effect of State (4.129-A) and Type of Institution (4.129-B) on the Impact of Professional Input Dimension of B.Ed. Programme on Teacher Educators

➢ For impact of B.Ed. programme on teacher educators w. r. t. type of institution (table 4.261 and figure 4.129-B) (i) at PB comparisons SFCE > GCE (M $_{SFCE – GCE}$ = .23 ns); GCE > GIACE (M $_{GCE – GIACE}$ = .22 ns); and SFCE > GIACE (M $_{SFCE – GIACE}$ = .45 ns) are non significant at α = .05; (ii) at HP comparisons of means - GCE > GIACE (M $_{GCE – GIACE}$ = .01 ns); GCE > SFCE (M $_{GCE –SFCE}$ = .14 ns); and GIACE > SFCE (M $_{GIACE –SFCE}$ = .13 ns) are non significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE (M $_{GIACE – GCE}$ = .31 ns); SFCE > GIACE (M $_{SFCE –GIACE}$ = .39 ns); and SFCE > GCE (M $_{SFCE – GCE}$ = .07 ns) are non significant at α = .05.

Thus, the effect of the type of institution is independent of the state.

Thus, H$_o$ stands accepted for the interaction effect of state and type of institution on the impact of professional input dimension of B.Ed. programme on teacher educators.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of the professional input dimension of B.Ed. programme on teacher educators.

4.2.2.5.7   Main and Interaction Effect of State and Type of Institution on the Impact of Evaluation Input Dimension of B.Ed. Programme on Teacher Educators

Main Effect of State on the Impact of Evaluation Input Dimension of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of state on the impact of evaluation input (EI) dimension of B.Ed. programme on teacher educators of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{EI - State (2, 111)} = 1.87$ is not significant at $\alpha = .05$ (table 4.249). Thus, H_o stands accepted for the effect of state on the impact of evaluation input dimension of B.Ed. programme on teacher educators.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant impact of the evaluation input dimension of B.Ed. programme on teacher educators.

Main Effect of Type of Institution on the Impact of Evaluation Input Dimensionof B.Ed. Programme on Teacher Educators

There is a significant main effect of type of institution on the impact of evaluation input (EI) dimension of B.Ed. programme on teacher educators of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{EI - TOI (2, 111)} = 5.49$ is significant at $\alpha = .01$ (table 4.249). Thus, H_o stands not accepted for the effect of type of institution on the impact of evaluation input dimension of B.Ed. programme on teacher educators.

Hence, the government, grant-in-aid, and self-financed colleges of education have a statistically significant impact of the evaluation input dimension of B.Ed. programme on teacher educators.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_0: There is no significant difference in the impact of evaluation input dimension of B.Ed. programme on teacher educators with respect to the type of institution.

Table 4.262

Means Matrix Showing Significance of Difference in Means regarding the Impact of Evaluation Input Dimension of B.Ed. Programme on Teacher Educators with respect to Type of Institution

Type of Institution ⟶			Government	Grant-In-Aid	Self-Financed
↓	**N**	**Mean** ⟶ **SD** ↓	5.63 1.29	5.69 1.57	6.52 .95
Government	35	5.63 1.29	-	.17	**3.47****
Grant-In-Aid	35	5.69 1.57		-	**2.79****
Self-Financed	50	6.52 .95			-

**α = .01 *and* *α = .05

Table 4.262 shows the significant mean differences on the impact of evaluation input dimension of B.Ed. Programme between the self-financed (M_{SFCE} = 6.52) vs government (M_{GCE} = 5.63) colleges of education favouring the self-financed colleges of education, as the value of t $_{(83)}$ = 3.47 is significant at α = .01; and the self-financed (M_{SFCE} = 6.52) vs grant-in-aid (M_{GIACE} = 5.69) colleges of education favouring the self-financed colleges of education, as the value of t $_{(83)}$ = 2.79 is significant at α = .01; and non significant mean difference on the impact of evaluation input dimension of B.Ed. Programme exits between the government (M_{GCE} = 5.63) vs grant-in-aid (M_{GIACE} = 5.69) colleges of education, as the value of t $_{(68)}$ = .17 is not significant at α = .05. Thus, H_0 stands not accepted for the teacher educators in the self-financed colleges of education vs government colleges of education and the self-financed colleges of education vs grant-in-aid colleges of education comparisons whereas H_0 stands accepted for the teacher educators in the government colleges of education vs grant-in-aid colleges of education comparison.

Hence, the self-financed colleges of education have significantly more effect than both the grant-in-aid colleges of education and government colleges of education; whereas both the grant-in-aid colleges of education and government colleges of education do not have significant difference on the impact of evaluation input dimension of B.Ed. programme on teacher educators.

Interaction Effect of State and Type of Institution on the Impact of Evaluation Input Dimensionof B.Ed. Programme on Teacher Educators

In table 4.249, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of evaluation input (EI) dimension of B.Ed. programme on teacher educators is found to be non-significant, as the values of $F_{EI - State \times TOI (4, 111)}$ = 2.32 is not significant at α = .05. Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of evaluation input dimension of B.Ed. programme on teacher educators.

Hence, the type of institution independently has a significant effect; the state independently and both the state and type of institution together have no significant effect on the impact of evaluation input dimension of B.Ed. programme on teacher educators.

4.2.2.5.8   Main and Interaction Effect of State and Type of Institution on the Impact of Pedagogical Process Dimension of B. Ed. Programme on Teacher Educators

Main Effect of State on the Impact of Pedagogical Process Dimension of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of state on the impact of pedagogical process (PDP) dimension of B.Ed. programme on teacher educators of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{PDP - State (2, 111)}$ = .96 is not significant at α = .05 (table 4.249). Thus, H_o stands accepted for the effect of state on the impact of pedagogical process dimension of B.Ed. programme on teacher educators.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant impact of the pedagogical process dimension of B.Ed. programme on teacher educators.

Main Effect of Type of Institution on the Impact of Pedagogical Process Dimension of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of type of institution on the impact of pedagogical process (PDP) dimension of B.Ed. programme on teacher educators of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{PDP - TOI (2, 111)}$ = 1.44 is not significant at α = .05 (table 4.249). Thus, H_o stands accepted for the effect of type of institution on the impact of pedagogical process dimension of B.Ed. programme on teacher educators.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant impact of the pedagogical process dimension of B.Ed. programme on teacher educators.

Interaction Effect of State and Type of Institution on the Impact of Pedagogical Process Dimension of B.Ed. Programme on Teacher Educators

In table 4.249, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of pedagogical process (PDP) dimension of B.Ed. programme on teacher educators is found to be significant, as the value of $F_{PDP - State \times TOI (4, 111)}$ = 5.19 is significant at α = .01. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of pedagogical process dimension of B.Ed. programme on teacher educators.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of pedagogical process dimension of B.Ed. programme on teacher educators varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.263.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

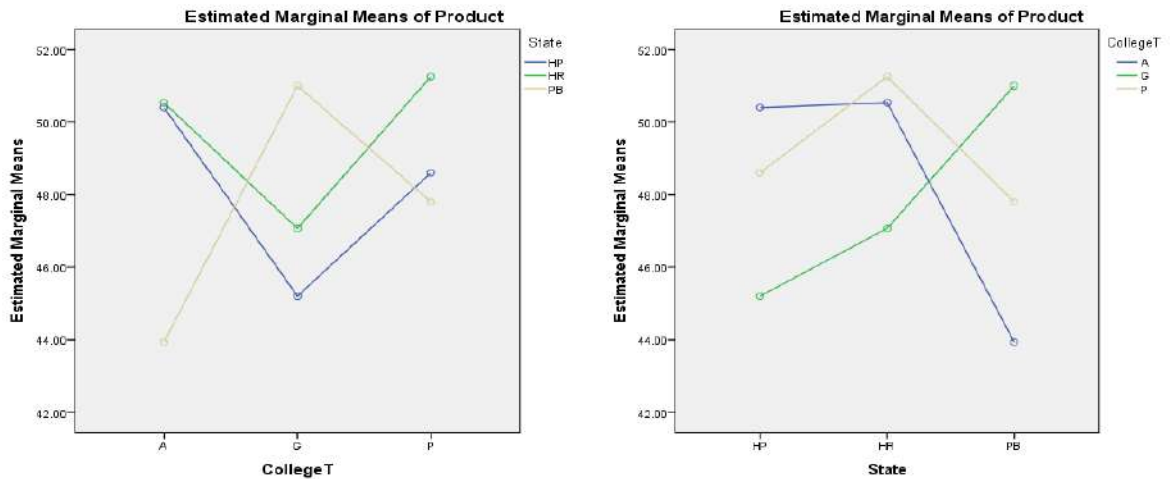H$_o$:   There is no significant interaction effect of state and type of institution on the impact of pedagogical process dimension of B.Ed. programme on teacher educators.

Table 4.263

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Pedagogical Process Dimension of B.Ed. Programme on Teacher Educators

Type of Institution ↓	State →	Punjab	Himachal Pradesh	Haryana
Government		$N_1 = 15$ $M_1 = 3.39$	$N_2 = 05$ $M_2 = 2.92$	$N_3 = 15$ $M_3 = 3.04$
Grant-in Aid		$N_4 = 15$ $M_4 = 2.87$	$N_5 = 05$ $M_5 = 3.36$	$N_6 = 15$ $M_6 = 3.24$
Self-Financed		$N_7 = 25$ $M_7 = 3.27$	$N_8 = 05$ $M_8 = 3.08$	$N_9 = 20$ $M_9 = 3.50$

N = Number of TEs and M = Mean Scores

Table 4.264

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Pedagogical Process Dimension of B.Ed. Programme on Teacher Educators

Type of Institution – Government Colleges of Education (GCE)				
State →		Punjab	Himachal Pradesh	Haryana
↓	↓Mean→	3.39	2.92	3.04
Punjab	3.39	-	.47	.35
Himachal Pradesh	2.92		-	.12
Haryana	3.04			**-**
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State →		Punjab	Himachal Pradesh	Haryana
↓	↓Mean→	2.87	3.36	3.24
Punjab	2.87	-	.49	.37
Himachal Pradesh	3.36		-	.12
Haryana	3.24			**-**
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State →		Punjab	Himachal Pradesh	Haryana
↓	↓Mean→	3.27	3.08	3.50
Punjab	3.27	-	.19	.23
Himachal Pradesh	3.08		-	.42
Haryana	3.50			**-**

State - Punjab (PB)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
	↓Mean⟶	3.39	2.87	3.27
Government	3.39	-	.52	.12
Grant-in Aid	2.87		-	.40
Self-Financed	3.27			-
State - Himachal Pradesh (HP)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
	↓Mean⟶	2.92	3.36	3.08
Government	2.92	-	.44	.16
Grant-in Aid	3.36		-	.28
Self-Financed	3.08			-
State – Haryana (HR)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
	↓Mean⟶	3.04	3.24	3.50
Government	3.04	-	.20	.46
Grant-in Aid	3.24		-	.26
Self-Financed	3.50			-

$q_{k\,at\,.05}$ = 4.24 & HSD or $Q_{critical\,at\,.05}$ = .55; $q_{k\,at\,.05}$ = 5.01 & HSD or $Q_{critical\,at\,.01}$ = .65; $^{**}\alpha$ = .01 and $^{*}\alpha$ = .05

All the comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh, and type of institution at Haryana respectively which are not significant as is shown in table 4.264.

For significant interaction of State x Type of Institution, Tukey's HSD test shows that –

➤ For impact of B.Ed. programme on teacher educators w. r. t. state (table 4.264 and figure 4.130-A) (i) at GCE comparisons of means - PB > HP ($M_{PB – HP}$ = .47 ns); HR > HP ($M_{HR – HP}$ = .12 ns); and PB > HR ($M_{PB – HR}$ = .35 ns) are non significant at α = .05; (ii) at GIACE comparisons of means - HP > PB ($M_{HP – PB}$ = .49 ns); HP > HR ($M_{HP – HR}$ = .12 ns); and HR > PB ($M_{HR – PB}$ = .37 ns) are non significant at α = .05; (iii) at SFCE comparisons of means - PB > HP ($M_{PB – HP}$ = .19 ns); HR > PB ($M_{HR – PB}$ = .23 ns); and HR > HP ($M_{HR – HP}$ = .42 ns) are non significant at α = .05.

Thus, the effect of the state is independent of the type of institution.
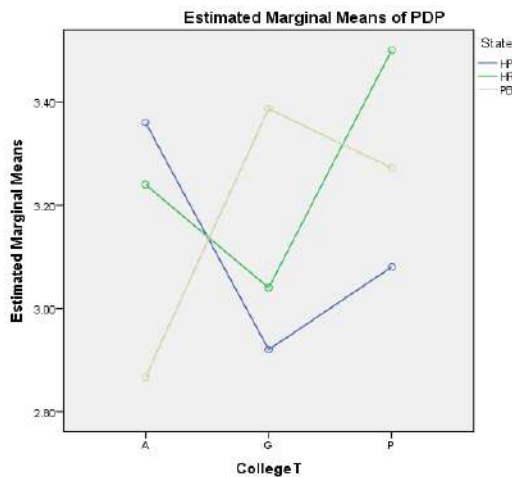
4.130-A (College =Constant)   **4.130-B (State=Constant)**
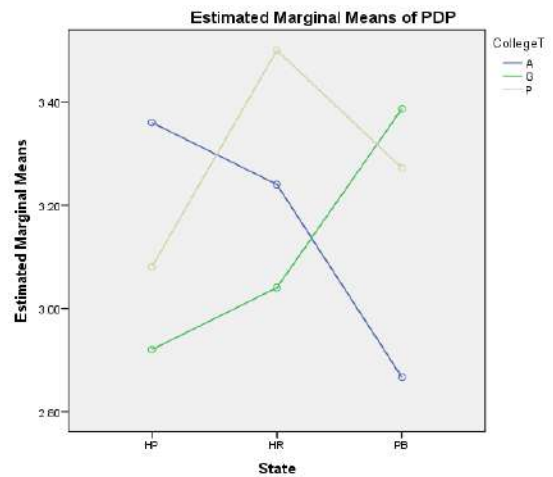
Figure 4.130 Interaction Effect of State (4.130-A) and Type of Institution (4.131-B) on the Impact of Pedagogical Process Dimension of B.Ed. Programme on Teacher Educators

 ➢ For impact of B.Ed. programme on teacher educators w. r. t. type of institution (table 4.264 and figure 4.130-B) (i) at PB comparisons GCE > SFCE ($M_{GCE-SFCE}$ = .12 ns); GCE > GIACE ($M_{GCE-GIACE}$ = .52 ns); and SFCE > GIACE ($M_{SFCE-GIACE}$ = .40 ns) are non significant at α = .05; (ii) at HP comparisons of means - GIACE > GCE ($M_{GIACE-GCE}$ = .44 ns); SFCE > GCE ($M_{SFCE-GCE}$ = .16 ns);and GIACE > SFCE ($M_{GIACE-SFCE}$ = .28 ns) are non significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE ($M_{GIACE-GCE}$ = .20 ns); SFCE > GIACE ($M_{SFCE-GIACE}$ = .26 ns);and SFCE > GCE ($M_{SFCE-GCE}$ = .46 ns) are non significant at α = .05.

  Thus, the effect of the type of institution is independent of the state.

Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of pedagogical process dimension of B.Ed. programme on teacher educators.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of the pedagogical process dimension of B.Ed. programme on teacher educators.

4.2.2.5.9 **Main and Interaction Effect of State and Type of Institution on the Impact of Evaluation Process Dimension of B.Ed. Programme on Teacher Educators**

Main Effect of State on the Impact of Evaluation Process Dimension of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of state on the impact of evaluation process (EP) dimension of B.Ed. programme on teacher educators of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{EP\text{ - State }(2,\ 111)} = .53$ is not significant at $\alpha = .05$ (table 4.249). Thus, H_o stands accepted for the effect of state on the impact of evaluation process dimension of B.Ed. programme on teacher educators.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant impact of the evaluation process dimension of B.Ed. programme on teacher educators.

Main Effect of Type of Institution on the Impact of Evaluation Process Dimension of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of type of institution on the impact of evaluation process (EP) dimension of B.Ed. programme on teacher educators of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{EP\text{ - TOI }(2,\ 111)} = .44$ is not significant at $\alpha = .05$ (table 4.249). Thus, H_o stands accepted for the effect of type of institution on the impact of evaluation process dimension of B.Ed. programme on teacher educators.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant impact of the evaluation process dimension of B.Ed. programme on teacher educators.

Interaction Effect of State and Type of Institution on the Impact of Evaluation Process Dimension of B.Ed. Programme on Teacher Educators

In table 4.249, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of evaluation process (EP) dimension of B.Ed. programme on teacher educators is found to be non-significant, as the value of $F_{EP\text{ - State x TOI }(4,\ 111)} = 2.09$ is not significant at $\alpha = .05$. Thus, H_o stands accepted

for the interaction effect of state and type of institution on the impact of evaluation process dimension of B.Ed. programme on teacher educators.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of the evaluation process dimension of B.Ed. programme on teacher educators.

4.2.2.5.10   Main and Interaction Effect of State and Type of Institution on the Impact of Professional Process Dimension of B.Ed. Programme on Teacher Educators

Main Effect of State on the Impact of Professional Process Dimension of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of state on the impact of professional process (PP) dimension of B.Ed. programme on teacher educators of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{PP - State (2, 111)} = .19$ is not significant at $\alpha = .05$ (table 4.249). Thus, H_o stands accepted for the effect of state on the impact of professional process dimension of B.Ed. programme on teacher educators.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant effect on the impact of the professional process dimension of B.Ed. programme on teacher educators.

Main Effect of Type of Institution on the Impact of Professional Process Dimension of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of type of institution on the impact of professional process (PP) dimension of B.Ed. programme on teacher educators of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{PP - TOI (2, 111)} = 2.26$ is not significant at $\alpha = .05$ (table 4.249). Thus, H_o stands accepted for the effect of type of institution on the impact of professional process dimension of B.Ed. programme on teacher educators.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant effect on the impact of the professional process dimension of B.Ed. programme on teacher educators.

Interaction Effect of State and Type of Institution on the Impact of Professional Process Dimension of B.Ed. Programme on Teacher Educators

In table 4.249, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of professional process (PP) dimension of B.Ed. programme on teacher educators is found to be significant, as the value of $F_{PP - State \times TOI (4, 111)} = 3.50$ is significant at $\alpha = .01$. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of professional process dimension of B.Ed. programme on teacher educators.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of professional process dimension of B.Ed. programme on teacher educators varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.265 below:

Table 4.265

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Professional Process Dimension of B.Ed. Programme on Teacher Educators

Type of Institution ↓ / State →	Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 15$ $M_1 = 2.83$	$N_2 = 05$ $M_2 = 3.08$	$N_3 = 15$ $M_3 = 2.96$
Grant-in Aid	$N_4 = 15$ $M_4 = 3.31$	$N_5 = 05$ $M_5 = 3.36$	$N_6 = 15$ $M_6 = 3.16$
Self-Financed	$N_7 = 25$ $M_7 = 3.31$	$N_8 = 05$ $M_8 = 3.20$	$N_9 = 20$ $M_9 = 3.45$

N = Number of TEs and M = Mean Scores

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of professional process dimension of B.Ed. programme on teacher educators.

Table 4.266
Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Professional Process Dimension of B.Ed. Programme on Teacher Educators

Type of Institution – Government Colleges of Education (GCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	↓**Mean**⟶	2.83	3.08	2.96
Punjab	2.83	-	.25	.13
Himachal Pradesh	3.08		-	.12
Haryana	2.96			**-**
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	↓**Mean**⟶	3.31	3.36	3.16
Punjab	3.31	-	.05	.15
Himachal Pradesh	3.36		-	.20
Haryana	3.16			**-**
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	↓**Mean**⟶	3.31	3.20	3.45
Punjab	3.31	-	.11	.14
Himachal Pradesh	3.20		-	.25
Haryana	3.45			**-**
State - Punjab (PB)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**⟶	2.83	3.31	3.31
Government	2.83	-	.48	.48
Grant-in Aid	3.31		-	.00
Self-Financed	3.31			**-**
State - Himachal Pradesh (HP)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**⟶	3.08	3.36	3.20
Government	3.08	-	.28	.12
Grant-in Aid	3.36		-	.16
Self-Financed	3.20			**-**
State – Haryana (HR)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**⟶	2.96	3.16	3.45
Government	2.96	-	.20	.49
Grant-in Aid	3.16		-	.29
Self-Financed	3.45			**-**

$q_{k\ at\ .05} = 4.24$ & HSD or Q $_{critical\ at\ .05} = .59$; $q_{k\ at\ .05} = 5.01$ & HSD or Q $_{critical\ at\ .01} = .69$; $^{**}\alpha = .01\ and\ ^{*}\alpha = .05$
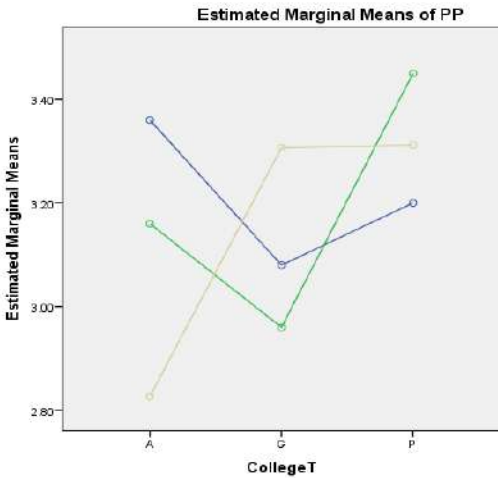
4.131-A (College =Constant)   **4.131-B (State=Constant)**
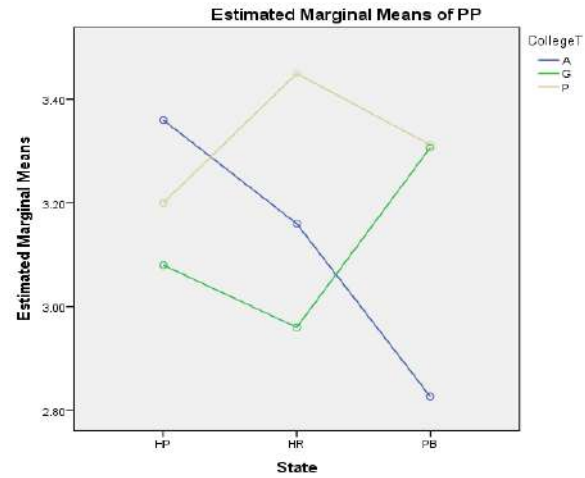
Figure 4.131 Interaction Effect of State (4.131-A) and Type of Institution (4.131-B) on the Impact of Professional Process Dimension of B.Ed. Programme on Teacher Educators

For significant interaction of State x Type of Institution, Tukey's HSD test shows that –

➤ For impact of B.Ed. programme on teacher educators w. r. t. state (table 4.265 and figure 4.131-A) (i) at GCE comparisons of means - HP > PB ($M_{HP – PB}$ = .25 ns); HP > HR ($M_{HP – HR}$ = .12 ns); and HR > PB ($M_{HR – PB}$ = .13ns) are non significant at α = .05; (ii) at GIACE comparisons of means - HP > PB ($M_{HP – PB}$ = .05 ns); HP > HR ($M_{HP – HR}$ = .20 ns); and PB > HR ($M_{PB– HR}$ = .15 ns) are non significant at α = .05; (iii) at SFCE comparisons of means - PB > HP ($M_{PB – HP}$ = .11 ns); HR > PB ($M_{HR – PB}$ = .14 ns); and HR > HP ($M_{HR – HP}$ = .25 ns) are non significant at α = .05.

Thus, the effect of the state is independent of the type of institution.

➤ For impact of B.Ed. programme on teacher educators w. r. t. type of institution (table 4.265 and figure 4.131-B) (i) at PB comparisons SFCE > GCE ($M_{SFCE – GCE}$ = .48 ns); GIACE > GCE ($M_{GIACE – GCE}$ = .48 ns); and SFCE = GIACE ($M_{SFCE – GIACE}$ = .00 ns) are non significant at α = .05; (ii) at HP comparisons of means - GIACE > GCE ($M_{GIACE – GCE}$ = .28 ns); SFCE > GCE ($M_{SFCE – GCE}$ = .12 ns); and

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GIACE > SFCE ($M_{\text{GIACE –SFCE}}$ = .16 ns) are non significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE ($M_{\text{GIACE – GCE}}$ = .20 ns); SFCE > GIACE ($M_{\text{SFCE –GIACE}}$ = .29 ns); and SFCE > GCE ($M_{\text{SFCE – GCE}}$ = .49 ns) are non significant at α = .05.

Thus, the effect of the type of institution is independent of the state.

Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of professional process dimension of B.Ed. programme on teacher educators.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of the professional process dimension of B.Ed. programme on teacher educators.

4.2.2.5.11   Main and Interaction Effect of State and Type of Institution on the Impact of Training Process Dimension of B. Ed. Programme on Teacher Educators

Main Effect of State on the Impact of Training Process Dimension of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of state on the impact of the training process (TP) dimension of B.Ed. programme on teacher educators of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{\text{TP - State (2, 111)}}$ = .70 is not significant at α = .05 (table 4.249). Thus, H_o stands accepted for the effect of state on the impact of training process dimension of B.Ed. programme on teacher educators.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant effect on the impact of the training process dimension of B.Ed. programme on teacher educators.

Main Effect of Type of Institution on the Impact of Training Process Dimension of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of type of institution on the impact of training process (TP) dimension of B.Ed. programme on teacher educators of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{\text{TP - TOI (2, 111)}}$ = 1.64 is not significant at α = .05 (table 4.249). Thus, H_o stands accepted for the effect of type

of institution on the impact of training process dimension of B.Ed. programme on teacher educators.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant effect on the impact of the training process dimension of B.Ed. programme on teacher educators.

Interaction Effect of State and Type of Institution on the Impact of Training Process Dimension of B.Ed. Programme on Teacher Educators

In table 4.249, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of training process (TP) dimension of B.Ed. programme on teacher educators is found to be significant, as the value of $F_{TP - State \times TOI (4, 111)} = 3.60$ is significant at $\alpha = .01$. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of training process dimension of B.Ed. programme on teacher educators.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of training process dimension of B.Ed. programme on teacher educators varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.267 below:

Table 4.267

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Training Process Dimension of B.Ed. Programme on Teacher Educators

Type of Institution ↓	State →	Punjab	Himachal Pradesh	Haryana
Government		$N_1 = 15$ $M_1 = 3.11$	$N_2 = 05$ $M_2 = 2.53$	$N_3 = 15$ $M_3 = 2.91$
Grant-in Aid		$N_4 = 15$ $M_4 = 2.87$	$N_5 = 05$ $M_5 = 3.40$	$N_6 = 15$ $M_6 = 2.89$
Self-Financed		$N_7 = 25$ $M_7 = 3.17$	$N_8 = 05$ $M_8 = 2.73$	$N_9 = 20$ $M_9 = 3.23$

N = Number of TEs and M = Mean Scores

Table 4.268
Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding on the Impact of Training Process Dimension of B.Ed. Programme on Teacher Educators

Type of Institution – Government Colleges of Education (GCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	**↓Mean⟶**	3.11	2.53	2.91
Punjab	3.11	-	.58	.20
Himachal Pradesh	2.53		-	.38
Haryana	2.91			**-**
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	**↓Mean⟶**	2.87	3.40	2.89
Punjab	2.87	-	.53	.02
Himachal Pradesh	3.40		-	.51
Haryana	2.89			**-**
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	**↓Mean⟶**	3.17	2.73	3.23
Punjab	3.17	-	.44	.06
Himachal Pradesh	2.73		-	.50
Haryana	3.23			**-**
State - Punjab (PB)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	**↓Mean⟶**	3.11	2.87	3.17
Government	3.11	-	.24	.06
Grant-in Aid	2.87		-	.30
Self-Financed	3.17			**-**
State - Himachal Pradesh (HP)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	**↓Mean⟶**	2.53	3.40	2.73
Government	2.53	-	**.87**[**]	.20
Grant-in Aid	3.40		-	**.67**[*]
Self-Financed	2.73			**-**
State – Haryana (HR)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	**↓Mean⟶**	2.91	2.89	3.23
Government	2.91	-	.02	.32
Grant-in Aid	2.89		-	.34
Self-Financed	3.23			**-**

$q_{k\ at\ .05}$ = 4.24 & HSD or Q $_{critical\ at\ .05}$ = .65; $q_{k\ at\ .05}$ = 5.01 & HSD or Q $_{critical\ at\ .01}$ = .77[**]α = .01 and [*] α = .05

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of training process dimension of B.Ed. programme on teacher educators.

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.268.

4.132-A (College =Constant)   **4.132-B (State=Constant)**
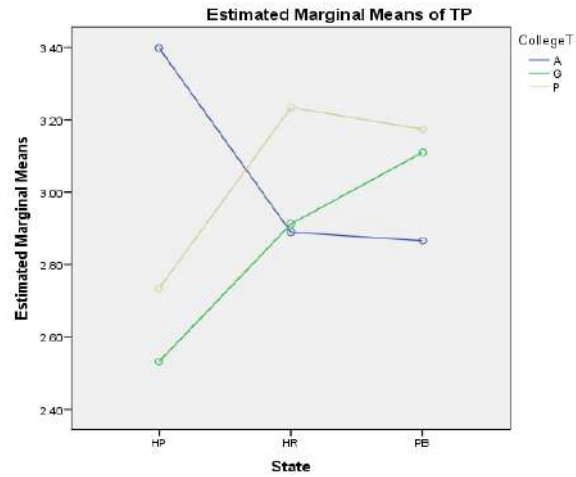
Figure 4.132 Interaction Effect of State (4.132-A) and Type of Institution (4.132-B) on the Impact of Training Process Dimension of B.Ed. Programme on Teacher Educators

For significant interaction of State x Type of Institution, Tukey's HSD test shows that –

> For impact of B.Ed. programme on teacher educators w. r. t. state (table 4.268 and figure 4.133-A) (i) at GCE comparisons of means - PB > HP ($M_{PB – HP}$ = .58 ns); HR > HP ($M_{HR – HP}$ = .38 ns); and PB > HR ($M_{PB – HR}$ = .20 ns) are non significant at α = .05; (ii) at GIACE comparisons of means - HP > PB ($M_{HP – PB}$ = .53 ns); HP > HR ($M_{HP – HR}$ = .51 ns); and HR > PB ($M_{HR –PB}$ = .02 ns) are non

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significant at α = .05; (iii) at SFCE comparisons of means - PB > HP (M $_{PB – HP}$ = .44 ns); HR > PB (M $_{HR – PB}$ = .06 ns); and HR > HP (M $_{HR – HP}$ = .50 ns) are non significant at α = .05.

Thus, the effect of the state is independent of the type of institution.

> For impact of B.Ed. programme on teacher educators w. r. t. type of institution (table 4.268 and figure 4.133-B) (i) at PB comparisons SFCE > GCE (M $_{SFCE – GCE}$ = .06 ns); GCE > GIACE (M $_{GCE – GIACE}$ = .24 ns); and SFCE > GIACE (M $_{SFCE – GIACE}$ = .30 ns) are non significant at α = .05; (ii) at HP comparisons of means - GIACE > GCE (M $_{GIACE – GCE}$ = .87[**]) and GIACE > SFCE (M $_{GIACE –SFCE}$ = .67[*]) are significant at α = .01 and .05 respectively; and SFCE > GCE (M $_{SFCE – GCE}$ = .20 ns) is not significant at α = .05; and (iii) at HR comparisons of means - GCE > GIACE (M $_{GCE – GIACE}$ = .02 ns); SFCE > GIACE (M $_{SFCE –GIACE}$ = .34 ns); and SFCE > GCE (M $_{SFCE – GCE}$ = .32 ns) are non significant at α = .05.

Thus, the effect of the type of institution depends on the state.

Thus, H$_o$ stands not accepted for the interaction effect of state and type of institution on the impact of training process dimension of B.Ed. programme on teacher educators.

Hence, both the state and type of institution independently have non-significant but together have a significant effect on the impact of training process dimension of B.Ed. programme on teacher educators.

4.2.2.5.12   Main and Interaction Effect of State and Type of Institution on the Impact of Academic & Non-Academic Responsibilities Product Dimension of B.Ed. Programme on Teacher Educators

Main Effect of State on the Impact of Academic & Non-Academic Responsibilities Product Dimension of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of state on the impact of academic & non-academic responsibilities product (ANAPr) dimension of B.Ed. programme on teacher educators of the states of Punjab, Himachal Pradesh, and Haryana, as the value of F $_{ANAPr - State (2, 111)}$ = 1.47 is not significant at α = .05 (table 4.249). Thus, H$_o$ stands accepted for the effect of

state on the impact of academic & non-academic responsibilities product dimension of B.Ed. programme on teacher educators.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant effect on the impact of academic & non-academic responsibilities product dimension of B.Ed. programme on teacher educators.

Main Effect of Type of Institution on the Impact of Academic & Non-Academic Responsibilities Product Dimension of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of type of institution on the impact of academic & non-academic responsibilities product (ANAPr) dimension of B.Ed. programme on teacher educators of the government, grant-in-aid, and self-financed colleges of education, as the value of F $_{ANAPr - TOI (2, 111)}$ = .39 is not significant at α = .05 (table 4.249). Thus, H$_o$ stands accepted for the effect of type of institution on the impact of academic & non-academic responsibilities product dimension of B.Ed. programme on teacher educators.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant effect on the impact of academic & non-academic responsibilities product dimension of B.Ed. programme on teacher educators.

Interaction Effect of State and Type of Institution on the Impact of Academic & Non-Academic Responsibilities Product Dimension of B.Ed. Programme on Teacher Educators

In table 4.249, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of academic & non-academic responsibilities product (ANAPr) dimension of B.Ed. programme on teacher educators is found to be non-significant, as the values of F $_{ANAPr - State \; x \; TOI (4, 111)}$ = 2.08 is not significant at α = .05. Thus, H$_o$ stands accepted for the interaction effect of state and type of institution on the impact of academic & non-academic responsibilities product dimension of B.Ed. programme on teacher educators.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of academic & non-academic responsibilities product dimension of B.Ed. programme on teacher educators.

4.2.2.5.13   Main and Interaction Effect of State and Type of Institution on the Impact of Resource Consultation Product Dimension of B.Ed. Programme on Teacher Educators

Main Effect of State on the Impact of Resource Consultation Product Dimension of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of state on the impact of resource consultation product (RCPr) dimension of B.Ed. programme on teacher educators of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{RCPr - State (2, 111)} = 1.25$ is not significant at $\alpha = .05$ (table 4.249). Thus, H_o stands accepted for the effect of state on the impact of resource consultation product dimension of B.Ed. programme on teacher educators.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant effect on the impact of the resource consultation product dimension of B.Ed. programme on teacher educators.

Main Effect of Type of Institution on the Impact of Resource Consultation Product Dimension of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of type of institution on the impact of resource consultation product (RCPr) dimension of B.Ed. programme on teacher educators of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{RCPr - TOI (2, 111)} = 1.68$ is not significant at $\alpha = .05$ (table 4.249). Thus, H_o stands accepted for the effect of type of institution on the impact of resource consultation product dimension of B.Ed. programme on teacher educators.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant effect on the impact of the resource consultation product dimension of B.Ed. programme on teacher educators.

Interaction Effect of State and Type of Institution on the Impact of Resource Consultation Product Dimension of B.Ed. programme on Teacher Educators

In table 4.249, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of resource consultation product (RCPr) dimension of B.Ed. programme on teacher educators is found to be significant, as the value of $F_{RCPr - State \times TOI (4, 111)} = 3.18$ is significant at $\alpha = .05$. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of resource consultation product dimension of B.Ed. programme on teacher educators.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of resource consultation product dimension of B.Ed. programme on teacher educators varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.269 below:

Table 4.269

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Resource Consultation Product Dimension of B.Ed. Programme on Teacher Educators

Type of Institution ↓ State →	Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 15$ $M_1 = 3.36$	$N_2 = 05$ $M_2 = 2.47$	$N_3 = 15$ $M_3 = 3.04$
Grant-in Aid	$N_4 = 15$ $M_4 = 3.00$	$N_5 = 05$ $M_5 = 3.20$	$N_6 = 15$ $M_6 = 3.31$
Self-Financed	$N_7 = 25$ $M_7 = 3.11$	$N_8 = 05$ $M_8 = 3.20$	$N_9 = 20$ $M_9 = 3.21$

N = Number of TEs and M = Mean Scores

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of resource consultation product dimension of B.Ed. programme on teacher educators.

Table 4.270
Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution Dimensionregarding the Impact of Resource Consultation Product of B.Ed. Programme on Teacher Educators

Type of Institution – Government Colleges of Education (GCE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean➔	3.36	2.47	3.04
Punjab	3.36	-	.89**	.32
Himachal Pradesh	2.47		-	.57
Haryana	3.04			-
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean➔	3.00	3.20	3.31
Punjab	3.00	-	.20	.31
Himachal Pradesh	3.20		-	.11
Haryana	3.31			-
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		Punjab	Himachal Pradesh	Haryana
↓	↓Mean➔	3.11	3.20	3.21
Punjab	3.11	-	.09	.10
Himachal Pradesh	3.20		-	.01
Haryana	3.21			-
State - Punjab (PB)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean➔	3.36	3.00	3.11
Government	3.36	-	.36	.25
Grant-in Aid	3.00		-	.11
Self-Financed	3.11			-
State - Himachal Pradesh (HP)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean➔	2.47	3.20	3.20
Government	2.47	-	.73*	.73*
Grant-in Aid	3.20		-	.00
Self-Financed	3.20			-
State – Haryana (HR)				
Type of Institution ⟶		Government	Grant-in Aid	Self-Financed
↓	↓Mean➔	3.04	3.31	3.21
Government	3.04	-	.27	.17
Grant-in Aid	3.31		-	.10
Self-Financed	3.21			-

*$q_{k\ at\ .05}$ = 4.24 & HSD or Q $_{critical\ at\ .05}$ = .71; $q_{k\ at\ .05}$ = 5.01 & HSD or Q $_{critical\ at\ .01}$ = .83; ** α = .01 and * α = .05*

The comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh and type of institution at Haryana respectively which are significant as is shown (in bold) in table 4.270.
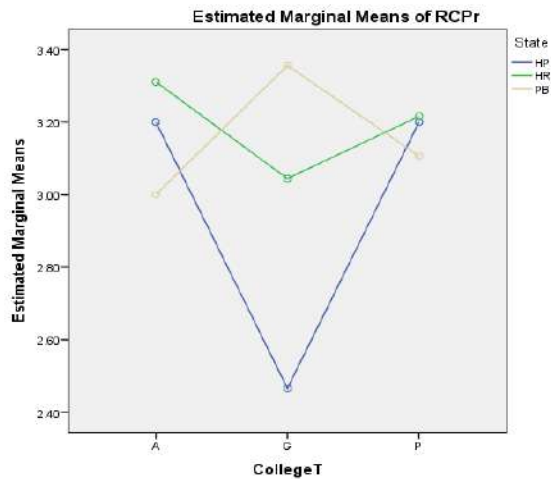
4.133-A (College =Constant)   **4.133-B (State=Constant)**
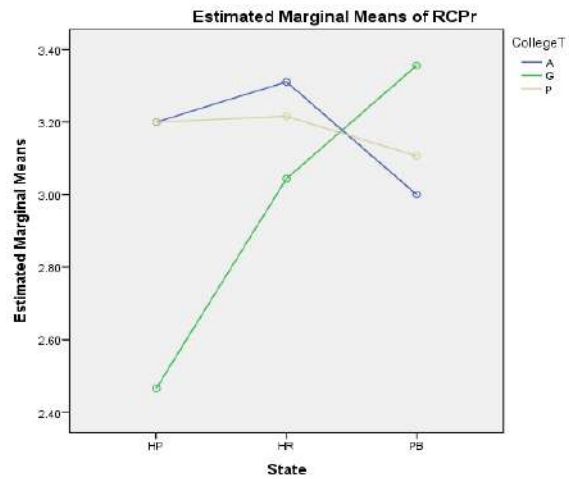
Figure 4.133 Interaction Effect of State (4.133-A) and Type of Institution (4.133-B) on the Impact of Resource Consultation Product Dimension of B.Ed. Programme on Teacher Educators

For significant interaction of State x Type of Institution, Tukey's HSD test shows that –

➢ For impact of B.Ed. programme on teacher educators w. r. t. state (table 4.270 and figure 4.133-A) (i) at GCE comparisons of means - PB > HP ($M_{PB–HP}$ = .89**) is significant at α = .01; HR > HP ($M_{HR–HP}$ = .57 ns); and PB > HR ($M_{PB–HR}$ = .32 ns) are non significant at α = .05; (ii) at GIACE comparisons of means - HP > PB ($M_{HP–PB}$ = .20 ns); HR > HP ($M_{HR–HP}$ = .11 ns); and HR > PB ($M_{HR–PB}$ = .31 ns) are non significant at α = .05; (iii) at SFCE comparisons of means - HP > PB ($M_{HP–PB}$ = .09 ns); HR > PB ($M_{HR–PB}$ = .10 ns); and HR > HP ($M_{HR–HP}$ = .01 ns) are non significant at α = .05.

Thus, the effect of the state depends on the type of institution.

➤ For impact of B.Ed. programme on teacher educators w. r. t. type of institution (table 4.270 and figure 4.133-B) (i) at PB comparisons GCE > SFCE ($M_{GCE-SFCE}$ = .25 ns); GCE > GIACE ($M_{GCE-GIACE}$ = .36 ns); and SFCE > GIACE ($M_{SFCE-GIACE}$ = .11 ns) are non significant at α = .05; (ii) at HP comparisons of means - GIACE > GCE ($M_{GIACE-GCE}$ = .73*) and SFCE > GCE ($M_{SFCE-GCE}$ = .73*) are significant at α = .05; and GIACE = SFCE ($M_{GIACE-SFCE}$ = .00 ns) is not significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE ($M_{GIACE-GCE}$ = .27 ns); GIACE > SFCE ($M_{GIACE-SFCE}$ = .10 ns); and SFCE > GCE ($M_{SFCE-GCE}$ = .17 ns) are non significant at α = .05.

Thus, the effect of the type of institution depends on the state.

Thus, H$_o$ stands not accepted for the interaction effect of state and type of institution on the impact of resource consultation product dimension of B.Ed. programme on teacher educators.

Hence, both the state and type of institution independently have no significance but together have a significant effect on the impact of resource consultation product dimension of B.Ed. programme on teacher educators.

4.2.2.5.14   Main and Interaction Effect of State and Type of Institution on the Impact of Professional Training Product Dimension of B.Ed. Programme on Teacher Educators

Main Effect of State on the Impact of Professional Training Product Dimension of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of state on the impact of professional training product (PTPr) dimension of B.Ed. programme on teacher educators of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{PTPr - State (2, 111)}$ = 2.53 is not significant at α = .05 (table 4.249). Thus, H$_o$ stands accepted for the effect of state on the impact of professional training product dimension of B.Ed. programme on teacher educators.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant effect on the impact of the professional training product dimension of B.Ed. programme on teacher educators.

Main Effect of Type of Institution on the Impact of Professional Training Product Dimension of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of type of institution on the impact of professional training product (PTPr) dimension of B.Ed. programme on teacher educators of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{PTPr - TOI (2, 111)} = .60$ is not significant at $\alpha = .05$ (table 4.249). Thus, H_o stands accepted for the effect of type of institution on the impact of professional training product dimension of B.Ed. programme on teacher educators.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant effect on the impact of the professional training product dimension of B.Ed. programme on teacher educators.

Interaction Effect of State and Type of Institution on the Impact of Professional Training Product Dimension of B.Ed. programme on Teacher Educators

In table 4.249, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of professional training product (PTPr) dimension of B.Ed. programme on teacher educators is found to be significant, as the value of $F_{PTPr - State \times TOI (4, 111)} = 3.13$ is significant at $\alpha = .05$. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of professional training product dimension of B.Ed. programme on teacher educators.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of professional training product dimension of B.Ed. programme on teacher educators varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.271.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant interaction effect of state and type of institution on the impact of professional training product dimension of B.Ed. programme on teacher educators.

Table 4.271

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Professional Training Product Dimension of B.Ed. Programme on Teacher Educators

Type of Institution ↓ State →	Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 15$ $M_1 = 3.13$	$N_2 = 05$ $M_2 = 2.73$	$N_3 = 15$ $M_3 = 2.91$
Grant-in Aid	$N_4 = 15$ $M_4 = 2.58$	$N_5 = 05$ $M_5 = 3.27$	$N_6 = 15$ $M_6 = 3.16$
Self-Financed	$N_7 = 25$ $M_7 = 2.93$	$N_8 = 05$ $M_8 = 3.00$	$N_9 = 20$ $M_9 = 3.32$

N = Number of TEs and M = Mean Scores

Table 4.272

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of PTPr Dimensionof B.Ed. Programme on Teacher Educators

Type of Institution – Government Colleges of Education (GCE)				
State →		Punjab	Himachal Pradesh	Haryana
↓	↓Mean →	3.13	2.73	2.91
Punjab	3.13	-	.40	.22
Himachal Pradesh	2.73		-	.18
Haryana	2.91			**-**
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State →		Punjab	Himachal Pradesh	Haryana
↓	↓Mean →	2.58	3.27	3.16
Punjab	2.58	-	.69	.58
Himachal Pradesh	3.27		-	.11
Haryana	3.16			**-**

Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ——————➤		**Punjab**	**Himachal Pradesh**	**Haryana**
	↓**Mean**➤	2.93	3.00	3.32
Punjab	2.93	-	.07	.39
Himachal Pradesh	3.00		-	.32
Haryana	3.32			**-**
State - Punjab (PB)				
Type of Institution——————➤		**Government**	**Grant-in Aid**	**Self-Financed**
	↓**Mean**➤	3.13	2.58	2.93
Government	3.13	-	.55	.20
Grant-in Aid	2.58		-	.35
Self-Financed	2.93			**-**
State - Himachal Pradesh (HP)				
Type of Institution——————➤		**Government**	**Grant-in Aid**	**Self-Financed**
	↓**Mean**➤	2.73	3.27	3.00
Government	2.73	-	.54	.27
Grant-in Aid	3.27		-	.27
Self-Financed	3.00			**-**
State – Haryana (HR)				
Type of Institution——————➤		**Government**	**Grant-in Aid**	**Self-Financed**
	↓**Mean**➤	2.91	3.16	3.32
Government	2.91	-	.25	.41
Grant-in Aid	3.16		-	.16
Self-Financed	3.32			**-**

$q_{k\ at\ .05} = 4.24$ & HSD or $Q_{critical\ at\ .05} = .76$; $q_{k\ at\ .05} = 5.01$ & HSD or $Q_{critical\ at\ .01} = .90$; $^{**}\alpha = .01\ and\ ^*\alpha = .05$

All the comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh, and type of institution at Haryana respectively which are not significant as is shown in table 4.272.

For significant interaction of State x Type of Institution, Tukey's HSD test shows that –

➤ For impact of B.Ed. programme on teacher educators w. r. t. state (table 4.272 and figure 4.134-A) (i) at GCE comparisons of means - PB > HP ($M_{PB – HP} = .40$ ns); HR > HP ($M_{HR – HP} = .18$ ns); and PB > HR ($M_{PB – HR} = .22$ ns) are non significant at $\alpha = .05$; (ii) at GIACE comparisons of means - HP > PB ($M_{HP – PB} = .69$ ns); HP > HR ($M_{HP – HR} = .11$ ns); and HR > PB ($M_{HR –PB} = .58$ ns) are non significant at $\alpha = .05$; (iii) at SFCE comparisons of means - HP > PB ($M_{HP – PB} =$

.07 ns); HR > PB (M $_{HR – PB}$ = .39 ns); and HR > HP (M $_{HR – HP}$ = .32 ns) are non significant at α = .05.

Thus, the effect of the state is independent of the type of institution.
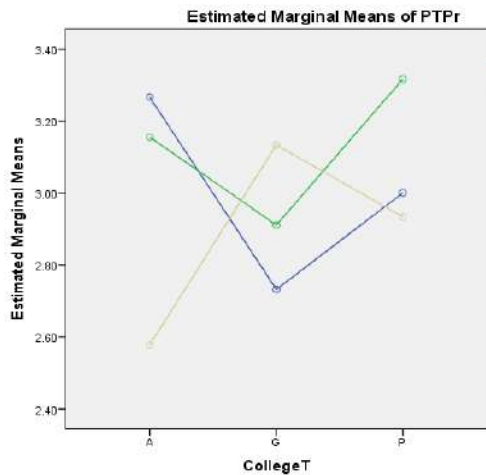
4.134-A (College =Constant)   **4.134-B (State=Constant)**
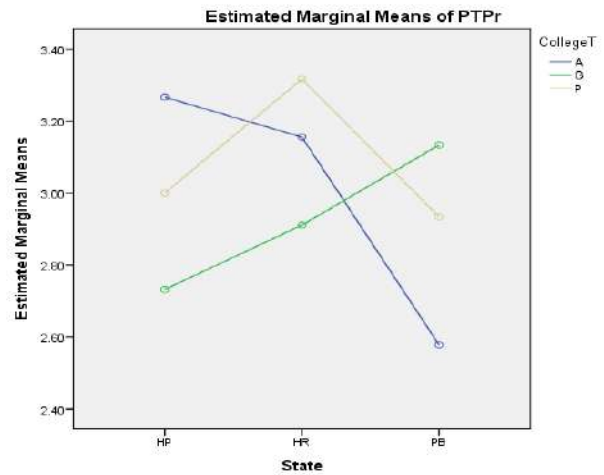
Figure 4.134 Interaction Effect of State (4.134-A) and Type of Institution (4.134-B) on the Impact of Professional Training Product of B.Ed. Programme on Teacher Educators

➢ For impact of B.Ed. programme on teacher educators w. r. t. type of institution (table 4.272 and figure 4.134-B) (i) at PB comparisons GCE > SFCE (M $_{GCE –SFCE}$ = .20 ns); GCE > GIACE (M $_{GCE – GIACE}$ = .55 ns); and SFCE > GIACE (M $_{SFCE –}$ $_{GIACE}$ = .35 ns) are non significant at α = .05; (ii) at HP comparisons of means - GIACE > GCE (M $_{GIACE – GCE}$ = .54 ns); SFCE > GCE (M $_{SFCE – GCE}$ = .27 ns); and GIACE > SFCE (M $_{GIACE –SFCE}$ = .27 ns) are non significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE (M $_{GIACE – GCE}$ = .25 ns); SFCE > GIACE (M $_{SFCE –GIACE}$ = .16 ns); and SFCE > GCE (M $_{SFCE – GCE}$ = .41 ns) are non significant at α = .05.

Thus, the effect of the type of institution is independent of the state.

Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of professional training product dimension of B.Ed. programme on teacher educators.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of professional training product dimension of B.Ed. programme on teacher educators.

4.2.2.5.15   Main and Interaction Effect of State and Type of Institution on the Impact of Evaluation Responsibilities Product Dimension of B.Ed. Programme on Teacher Educators

Main Effect of State on the Impact of Evaluation Responsibilities Product Dimension of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of state on the impact of evaluation responsibilities product (ERPr) dimension of B.Ed. programme on teacher educators of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{ERPr - State\ (2,\ 111)} = .22$ is not significant at $\alpha = .05$ (table 4.249). Thus, H_o stands accepted for the effect of state on the impact of evaluation responsibilities product dimension of B.Ed. programme on teacher educators.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant effect on the impact of the evaluation responsibilities product dimension of B.Ed. programme on teacher educators.

Main Effect of Type of Institution on the Impact of Evaluation Responsibilities Product Dimension of B.Ed. programme on Teacher Educators

There is a non-significant main effect of type of institution on the impact of evaluation responsibilities product (ERPr) dimension of B.Ed. programme on teacher educators of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{ERPr - TOI\ (2,\ 111)} = .86$ is not significant at $\alpha = .05$ (table 4.249). Thus, H_o stands accepted for the effect of type of institution on the impact of evaluation responsibilities product dimension of B.Ed. programme on teacher educators.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant effect on the impact of the evaluation responsibilities product dimension of B.Ed. programme on teacher educators.

Interaction Effect of State and Type of Institution on the Impact of Evaluation Responsibilities Product Dimension of B.Ed. Programme on Teacher Educators

In table 4.249, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of evaluation responsibilities product (ERPr) dimension of B.Ed. programme on teacher educators is found to be significant, as the value of $F_{ERPr - State \times TOI (4, 111)} = 2.79$ is significant at $\alpha = .05$. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of evaluation responsibilities product dimension of B.Ed. programme on teacher educators.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of evaluation responsibilities product dimension of B.Ed. programme on teacher educators varies due to any one of these (i.e. state and type of institution) independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.273.

Table 4.273

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Evaluation Responsibilities Product Dimension of B.Ed. Programme on Teacher Educators

Type of Institution ↓ State →	Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 15$ $M_1 = 3.43$	$N_2 = 05$ $M_2 = 3.10$	$N_3 = 15$ $M_3 = 3.13$
Grant-in Aid	$N_4 = 15$ $M_4 = 2.80$	$N_5 = 05$ $M_5 = 3.10$	$N_6 = 15$ $M_6 = 3.27$
Self-Financed	$N_7 = 25$ $M_7 = 3.08$	$N_8 = 05$ $M_8 = 3.20$	$N_9 = 20$ $M_9 = 3.10$

N = Number of TEs and M = Mean Scores

Table 4.274
Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Evaluation Responsibilities Product Dimension of B.Ed. Programme on Teacher Educators

Type of Institution – Government Colleges of Education (GCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	↓**Mean**➤	3.43	3.10	3.13
Punjab	3.43	-	.33	.30
Himachal Pradesh	3.10		-	.03
Haryana	3.13			**-**
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	↓**Mean**➤	2.80	3.10	3.27
Punjab	2.80	-	.30	.47
Himachal Pradesh	3.10		-	.17
Haryana	3.27			**-**
Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
↓	↓**Mean**➤	3.08	3.20	3.10
Punjab	3.08	-	.12	.02
Himachal Pradesh	3.20		-	.10
Haryana	3.10			**-**
State - Punjab (PB)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**➤	3.43	2.80	3.08
Government	3.43	-	.63	.35
Grant-in Aid	2.80		-	.28
Self-Financed	3.08			**-**
State - Himachal Pradesh (HP)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**➤	3.10	3.10	3.20
Government	3.10	-	.00	.10
Grant-in Aid	3.10		-	.10
Self-Financed	3.20			**-**
State – Haryana (HR)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
↓	↓**Mean**➤	3.13	3.27	3.10
Government	3.13	-	.14	.03
Grant-in Aid	3.27		-	.17
Self-Financed	3.10			**-**

$q_{k\ at\ .05}$ = 4.24 & HSD or Q $_{critical\ at\ .05}$ = .65; $q_{k\ at\ .05}$ = 5.01 & HSD or Q $_{critical\ at\ .01}$ = .77; **α = .01 and* *α = .05

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H₀: There is no significant interaction effect of state and type of institution on the impact of evaluation responsibilities product dimension of B.Ed. programme on teacher educators.

All the comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh, and type of institution at Haryana respectively which are not significant as is shown in table 4.274.

4.135-A (College =Constant)   4.135-B (State=Constant)

Figure 4.135 Interaction Effect of State (4.135-A) and Type of Institution (4.135-B) on the Impact of Evaluation Responsibilities Product Dimension of B.Ed. Programme on Teacher Educators

For significant interaction of State x Type of Institution, Tukey's HSD test shows that –

 ➤ For IBP on teacher educators w. r. t. state (table 4.274 and figure 4.135-A) (i) at GCE comparisons of means - PB > HP (M $_{PB – HP}$ = .33 ns); HR > HP (M $_{HR – HP}$ = .03 ns); and PB > HR (M $_{PB – HR}$ = .30 ns) are non significant at α = .05; (ii) at GIACE comparisons of means - HP > PB (M $_{HP – PB}$ = .30 ns); HR > HP (M $_{HR – HP}$

= .17 ns); and HR > PB (M $_{HR-PB}$ = .47 ns) are non significant at α = .05; (iii) at SFCE comparisons of means - HP > PB (M $_{HP-PB}$ = .12 ns); HR > PB (M $_{HR-PB}$ = .02 ns); and HP > HR (M $_{HP-HR}$ = .10 ns) are non significant at α = .05. Thus, the effect of state is independent of the type of institution.

➢ For IBP on teacher educators w. r. t. type of institution (table 4.274 and figure 4.135-B) (i) at PB comparisons GCE > SFCE (M $_{GCE-SFCE}$ = .35 ns); GCE > GIACE (M $_{GCE-GIACE}$ = .63 ns); and SFCE > GIACE (M $_{SFCE-GIACE}$ = .28 ns) are non significant at α = .05; (ii) at HP comparisons of means - GIACE = GCE (M $_{GIACE-GCE}$ = .00 ns); SFCE > GCE (M $_{SFCE-GCE}$ = .10 ns); and SFCE > GIACE (M $_{SFCE-GIACE}$ = .10 ns) are non significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE (M $_{GIACE-GCE}$ = .14 ns); GIACE > SFCE (M $_{GIACE-SFCE}$ = .17 ns); and GCE > SFCE (M $_{GCE-SFCE}$ = .03 ns) are non significant at α = .05.

Thus, the effect of the type of institution is independent of the state.

Thus, H$_o$ stands accepted for the interaction effect of state and type of institution on the impact of evaluation responsibilities product dimension of B.Ed. programme on teacher educators.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of evaluation responsibilities product dimension of B.Ed. programme on teacher educators.

4.2.2.5.16   Main and Interaction Effect of State and Type of Institution on the Impact of Social Responsibilities Product Dimension of B. Ed. Programme on Teacher Educators

Main Effect of State on the Impact of Social Responsibilities Product Dimension of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of state on the impact of social responsibilities product (SRPr) dimension of B.Ed. programme on teacher educators of the states of Punjab, Himachal Pradesh, and Haryana, as the value of F $_{SRPr - State (2, 111)}$ = .68 is not significant at α = .05 (table 4.249). Thus, H$_o$ stands accepted for the effect of state on the

impact of social responsibilities product dimension of B.Ed. programme on teacher educators.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant effect on the impact of the social responsibilities product dimension of B.Ed. programme on teacher educators.

Main Effect of Type of Institution on the Impact of Social Responsibilities Product Dimension of B.Ed. Programme on Teacher Educators

There is a non-significant main effect of type of institution on the impact of social responsibilities product (SRPr) dimension of B.Ed. programme on teacher educators of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{SRPr - TOI (2, 111)}$ = .20 is not significant at α = .05 (table 4.249). Thus, H_o stands accepted for the effect of type of institution on the impact of social responsibilities product dimension of B.Ed. programme on teacher educators.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant effect on the impact of the social responsibilities product dimension of B.Ed. programme on teacher educators.

Interaction Effect of State and Type of Institution on the Impact of Social Responsibilities Product Dimension of B.Ed. Programme on Teacher Educators

In table 4.249, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of social responsibilities product (SRPr) dimension of B.Ed. programme on teacher educators is found to be significant, as the value of $F_{SRPr - State \times TOI (4, 111)}$ = 2.64 is significant at α = .05. Thus, H_o stands not accepted for the interaction effect of state and type of institution on the impact of social responsibilities product dimension of B.Ed. programme on teacher educators.

Interaction effect implies, here, that there are differential effects of any one of these variables (i.e. state and type of institution) at different levels of the other variable or that the pattern of the impact of social responsibilities product dimension of B.Ed. programme on teacher educators varies due to any one of these (i.e. state and type of institution)

independent variables at the different levels of the other independent variable. The means of different subgroups are shown in table 4.275.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_0:   There is no significant interaction effect of state and type of institution on the impact of social responsibilities product dimension of B.Ed. programme on teacher educators.

Table 4.275

Means of Subgroups of ANOVA for 3 x 3 Design w. r. t. the Impact of Social Responsibilities Product Dimension of B.Ed. Programme on Teacher Educators

Type of Institution ↓	State → Punjab	Himachal Pradesh	Haryana
Government	$N_1 = 15$ $M_1 = 3.03$	$N_2 = 05$ $M_2 = 2.90$	$N_3 = 15$ $M_3 = 2.73$
Grant-in Aid	$N_4 = 15$ $M_4 = 2.60$	$N_5 = 05$ $M_5 = 3.30$	$N_6 = 15$ $M_6 = 3.03$
Self-Financed	$N_7 = 25$ $M_7 = 2.94$	$N_8 = 05$ $M_8 = 2.80$	$N_9 = 20$ $M_9 = 3.15$

N = Number of TEs and M = Mean Scores

Table 4.276

Means Matrices Showing Significance of Differences in Means of various cells of 3 x 3 Design w. r. t. the effect of State and Type of Institution regarding the Impact of Social Responsibilities Product DimensionB.Ed. Programme on Teacher Educators

Type of Institution – Government Colleges of Education (GCE)				
State →		Punjab	Himachal Pradesh	Haryana
↓	↓Mean →	3.03	2.90	2.73
Punjab	3.03	-	.13	.30
Himachal Pradesh	2.90		-	.17
Haryana	2.73			-
Type of Institution – Grant-in-Aid Colleges of Education (GIACE)				
State →		Punjab	Himachal Pradesh	Haryana
↓	↓Mean →	2.60	3.30	3.03
Punjab	2.60	-	.70	.43
Himachal Pradesh	3.30		-	.27
Haryana	3.03			-

Type of Institution – Self-Financed Colleges of Education (SFCE)				
State ⟶		**Punjab**	**Himachal Pradesh**	**Haryana**
	↓**Mean**⟶	2.94	2.80	3.15
Punjab	2.94	-	.14	.21
Himachal Pradesh	2.80		-	.35
Haryana	3.15			-
State - Punjab (PB)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
	↓**Mean**⟶	3.03	2.60	2.94
Government	3.03	-	.43	.09
Grant-in Aid	2.60		-	.34
Self-Financed	2.94			-
State - Himachal Pradesh (HP)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
	↓**Mean**⟶	2.90	3.30	2.80
Government	2.90	-	.40	.10
Grant-in Aid	3.30		-	.50
Self-Financed	2.80			-
State – Haryana (HR)				
Type of Institution ⟶		**Government**	**Grant-in Aid**	**Self-Financed**
	↓**Mean**⟶	2.73	3.03	3.15
Government	2.73	-	.30	.42
Grant-in Aid	3.03		-	.12
Self-Financed	3.15			-

$q_{k\ at\ .05} = 4.24$ & HSD or $Q_{critical\ at\ .05} = .78$; $q_{k\ at\ .05} = 5.01$ & HSD or $Q_{critical\ at\ .01} = .92$; $^{**}\alpha = .01\ and\ ^{*}\alpha = .05$

All the comparisons of means for state at government colleges of education, state at grant-in-aid colleges of education, state at self-financed colleges of education, type of institution at Punjab, type of institution at Himachal Pradesh, and type of institution at Haryana respectively which are not significant as is shown in table 4.276.

For significant interaction of State x Type of Institution, Tukey's HSD test shows that –

➤ For impact of B.Ed. programme on teacher educators w. r. t. state (table 4.276 and figure 4.136-A) (i) at GCE comparisons of means - PB > HP (M $_{PB – HP}$ = .13 ns); HP > HR (M $_{HP – HR}$ = .17 ns); and PB > HR (M $_{PB – HR}$ = .30 ns) are non significant at α = .05; (ii) at GIACE comparisons of means - HP > PB (M $_{HP – PB}$ = .70 ns); HP > HR (M $_{HP – HR}$ = .27 ns); and HR > PB (M $_{HR – PB}$ = .43 ns) are non significant at α = .05; (iii) at SFCE comparisons of means - PB > HP (M $_{PB – HP}$ =

.14 ns); HR > PB (M $_{HR-PB}$ = .21 ns); and HR > HP (M $_{HR-HP}$ = .35 ns) are non significant at α = .05.

Thus, the effect of the state is independent of the type of institution.
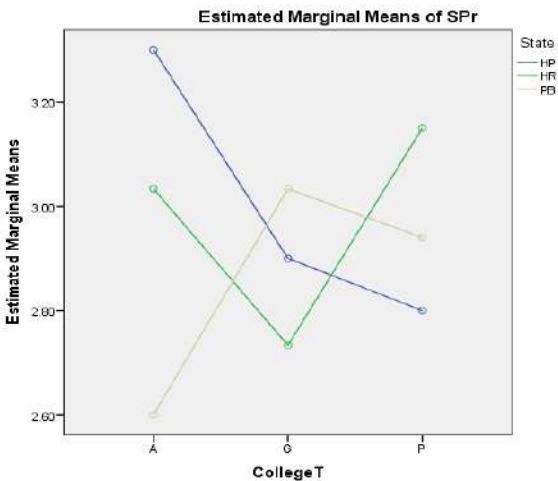
4.136-A (College =Constant)   4.136-B (State=Constant)
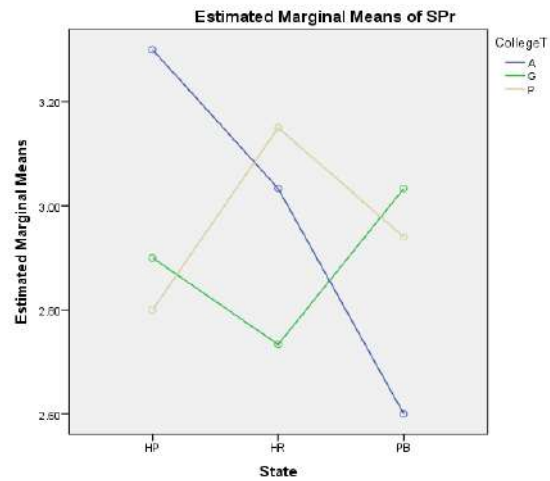
Figure 4.136 Interaction Effect of State (4.136-A) and Type of Institution (4.136-B) on the Impact of Social Responsibilities Product Dimension of B.Ed. Programme on Teacher Educators

➢ For impact of B.Ed. programme on teacher educators w. r. t. type of institution (table 4.276 and figure 4.136-B) (i) at PB comparisons GCE > SFCE (M $_{GCE-SFCE}$ = .09 ns); GCE > GIACE (M $_{GCE-GIACE}$ = .43 ns); and SFCE > GIACE (M $_{SFCE-GIACE}$ = .34 ns) are non significant at α = .05; (ii) at HP comparisons of means - GIACE > GCE (M $_{GIACE-GCE}$ = .40 ns); GCE > SFCE (M $_{GCE-SFCE}$ = .10 ns); and GIACE > SFCE (M $_{GIACE-SFCE}$ = .50 ns) are non significant at α = .05; and (iii) at HR comparisons of means - GIACE > GCE (M $_{GIACE-GCE}$ = .30 ns); SFCE > GIACE (M $_{SFCE-GIACE}$ = .12 ns); and SFCE > GCE (M $_{SFCE-GCE}$ = .42 ns) are non significant at α = .05.

Thus, the effect of the type of institution is independent of the state.

Thus, H$_o$ stands accepted for the interaction effect of state and type of institution on the impact of social responsibilities product dimension of B.Ed. programme on teacher educators.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of social responsibilities product dimension of B.Ed. programme on teacher educators.

4.2.2.5.17   Effect of Type of Self-Financed Institution on the Dimensionwise Impact of B.Ed. Programme on Teacher Educators

t-test (independent samples) was applied to study the effect of a single independent variable i.e., type of self-financed institution on a single dependent variable i.e., the dimensionwise impact of B.Ed. programme (IBP) on teacher educators on the data obtained in terms of rating scores of teacher educators on ESIBP (Dimensionwise Data) after the computation of means and standard deviations. The term type of self-financed institution, here, refers to two types of self-financed institutions i.e., self-financed institutions affiliated to state government universities (SFISGU) and self-financed institutions affiliated to private universities (SFIPU) (table 4.276A).

The significance of the difference between means of the impact of sixteen dimensions, i.e., Mission & Vision (MV); Programme Objectives (PO); Academic Input (AI); Training Input (TI); Resource Input (RI); Professional Input (PI); Evaluation Input (EI); Pedagogical Process (PDP); Evaluation Process (EP); Professional Process (PP); Training Process (TP); Academic & Non-Academic Responsibilities Product (ANARPr); Resource Consultation Product (RCPr); Professional Training Product (PTPr); Evaluation Responsibilities Product (ERPr); and Social Responsibilities Product (SRPr) of four factors of evaluation i.e., Context, Input, Process, and Product factors, of B.Ed. programme in case of teacher educators with respect to the type of self-financed institution have been computed, compared, and tested against the following null hypothesis:

H$_o$:   There is no significant difference in the dimensionwise impact of B.Ed. programme on teacher educators w. r. t. the type of self-financed institution.

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Table 4.276A
Means Matrices Showing Significance of Difference in Means regarding the Dimensionwise Impact of B.Ed. Programme on Teacher Educators with respect to Type of Self-Financed Institution

Sr. No.	Dimensions of B.Ed. Programme	University				SFISGU	SFIPU
			N	Mean SD		3.36 .45	3.50 .44
1	Mission & Vision (MV)	SFISGU	35	3.36 .45		-	.98
		SFIPU	15	3.50 .44			-
2	Programme Objectives (PO)			Mean SD		3.39 .36	3.38 .35
		SFISGU	35	3.39 .36		-	.09
		SFIPU	15	3.38 .35			-
3	Academic Input (AI)			Mean SD		3.39 .42	3.33 .45
		SFISGU	35	3.39 .42		-	.40
		SFIPU	15	3.33 .45			-
4	Training Input (TI)			Mean SD		3.26 .39	3.27 .47
		SFISGU	35	3.26 .39		-	.03
		SFIPU	15	3.27 .47			-
5	Resource Input (RI)			Mean SD		3.46 .55	3.47 .52
		SFISGU	35	3.46 .55		-	.06
		SFIPU	15	3.47 .52			-
6	Professional Input (PI)			Mean SD		3.41 .45	3.38 .44
		SFISGU	35	3.41 .45		-	.23
		SFIPU	15	3.38 .44			-

				Mean SD	3.26 .52	3.27 .37
7	*Evaluation Input (EI)*	**SFISGU**	35	3.26 .52	-	.06
		SFIPU	15	3.27 .37		**-**
				Mean SD	3.35 .41	3.32 .34
8	*Pedagogical Process (PDP)*	**SFISGU**	35	3.35 .41	-	.29
		SFIPU	15	3.32 .34		**-**
				Mean SD	3.35 .35	3.22 .27
9	*Evaluation Process (EP)*	**SFISGU**	35	3.35 .35	-	1.29
		SFIPU	15	3.22 .27		**-**
				Mean SD	3.39 .44	3.28 .31
10	*Professional Process (PP)*	**SFISGU**	35	3.39 .44	-	.86
		SFIPU	15	3.28 .31		**-**
				Mean SD	3.15 .42	3.16 .38
11	*Training Process (TP)*	**SFISGU**	35	3.15 .42	-	.02
		SFIPU	15	3.16 .38		**-**
				Mean SD	3.08 .37	2.97 .33
12	*Academic & Non-Academic Responsibilities Product (ANAPr)*	**SFISGU**	35	3.08 .37	-	1.01
		SFIPU	15	2.97 .33		**-**
				Mean SD	3.25 .40	2.96 .50
13	*Resource Consultation Product (RCPr)*	**SFISGU**	35	3.25 .40	-	**2.19**[*]
		SFIPU	15	2.96 .50		**-**

#	Name	Group	N	Mean SD		
14	*Professional Training Product (PTPr)*			**Mean** → **SD** ↓	3.15 .47	2.96 .52
		SFISGU	35	3.15 .47	-	1.31
		SFIPU	15	2.96 .52		**-**
15	*Evaluation Responsibilities Product (ERPr)*			**Mean** → **SD** ↓	3.07 .44	3.17 .49
		SFISGU	35	3.07 .44	-	.68
		SFIPU	15	3.17 .49		**-**
16	*Social Responsibilities Product (SRPr)*			**Mean** → **SD** ↓	3.10 .38	2.80 .53
		SFISGU	35	3.10 .38	-	**2.27***
		SFIPU	15	2.80 .53		**-**

[**] $\alpha = .01$ *and* [*] $\alpha = .05$

4.2.2.5.17.1 Effect of Type of Self-Financed Institution on the Impact of Mission & Vision Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of mission & vision dimension of B.Ed. programme on teacher educators is between the self-financed institutions affiliated to state government universities ($M_{SFISGU} = 3.36$) vs self-financed institutions affiliated to private universities ($M_{SFIPU} = 3.50$), as the value of t $_{(48)} = .98$ is not significant at $\alpha = .05$ (table 4.276A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant effect on the impact of the mission & vision dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of mission & vision dimension of B.Ed. programme on teacher educators.

4.2.2.5.17.2   Effect of Type of Self-Financed Institution on the Impact of Programme Objectives Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of programme objectives dimension of B.Ed. programme on teacher educators is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 3.39) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 3.38), as the value of $t_{(48)}$ = .09 is not significant at α = .05 (table 4.276A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant effect on the impact of programme objectives dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of programme objectives dimension of B.Ed. programme on teacher educators.

4.2.2.5.17.3   Effect of Type of Self-Financed Institution on the Impact of Academic Input Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of academic input dimension of B.Ed. programme on teacher educators is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 3.39) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 3.33), as the value of $t_{(48)}$ = .40 is not significant at α = .05 (table 4.276A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated with private universities have no significant effect on the impact of the academic input dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of the academic input dimension of B.Ed. programme on teacher educators.

4.2.2.5.17.4 Effect of Type of Self-Financed Institution on the Impact of Training Input Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of training input dimension of B.Ed. programme on teacher educators is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 3.26) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 3.27), as the value of t $_{(48)}$ = .03 is not significant at α = .05 (table 4.276A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated with private universities have no significant effect on the impact of the training input dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of the training Input dimension of B.Ed. programme on teacher educators.

4.2.2.5.17.5 Effect of Type of Self-Financed Institution on the Impact of Resource Input Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of resource input dimension of B.Ed. programme on teacher educators is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 3.46) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 3.47), as the value of t $_{(48)}$ = .06 is not significant at α = .05 (table 4.276A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant effect on the impact of the resource input dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of resource input dimension of B.Ed. programme on teacher educators.

4.2.2.5.17.6   Effect of Type of Self-Financed Institution on the Impact of Professional Input Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of professional input dimension of B.Ed. programme on teacher educators is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 3.41) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 3.38), as the value of t $_{(48)}$ = .23 is not significant at α = .05 (table 4.276A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant effect on the impact of the professional input dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of the professional input dimension of B.Ed. programme on teacher educators.

4.2.2.5.17.7   Effect of Type of Self-Financed Institution on the Impact of Evaluation Input Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of evaluation input dimension of B.Ed. programme on teacher educators is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 3.26) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 3.27), as the value of t $_{(48)}$ = .06 is not significant at α = .05 (table 4.276A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant effect on the impact of the evaluation input dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of evaluation input dimension of B.Ed. programme on teacher educators.

4.2.2.5.17.8   Effect of Type of Self-Financed Institution on the Impact of Pedagogical Process Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of pedagogical process dimension of B.Ed. programme on teacher educators is between the self-financed institutions affiliated to state government universities ($M_{SFISGU} = 3.35$) vs self-financed institutions affiliated to private universities ($M_{SFIPU} = 3.32$), as the value of $t_{(48)} = .29$ is not significant at $\alpha = .05$ (table 4.276A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant effect on the impact of the pedagogical process dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of the pedagogical process dimension of B.Ed. programme on teacher educators.

4.2.2.5.17.9   Effect of Type of Self-Financed Institution on the Impact of Evaluation Process Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of evaluation process dimension of B.Ed. programme on teacher educators is between the self-financed institutions affiliated to state government universities ($M_{SFISGU} = 3.35$) vs self-financed institutions affiliated to private universities ($M_{SFIPU} = 3.22$), as the value of $t_{(48)} = 1.29$ is not significant at $\alpha = .05$ (table 4.276A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated with private universities have no significant effect on the impact of the evaluation process dimension on teacher educators. Thus, H_o stands accepted for the teacher educators of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of the evaluation process dimension of B.Ed. programme on teacher educators.

4.2.2.5.17.10 Effect of Type of Self-Financed Institution on the Impact of Professional Process Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of professional process dimension of B.Ed. programme on teacher educators is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 3.39) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 3.28), as the value of t $_{(48)}$ = .86 is not significant at α = .05 (table 4.276A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant effect on the impact of the professional process dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of the professional process dimension of B.Ed. programme on teacher educators.

4.2.2.5.17.11 Effect of Type of Self-Financed Institution on the Impact of Training Process Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of training process dimension of B.Ed. programme on teacher educators is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 3.15) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 3.16), as the value of t $_{(48)}$ = .02 is not significant at α = .05 (table 4.276A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated with private universities have no significant effect on the impact of the training process dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of the training process dimension of B.Ed. programme on teacher educators.

4.2.2.5.17.12   Effect of Type of Self-Financed Institution on the Impact of Academic & Non-Academic Responsibilities Product Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of academic & non-academic responsibilities product dimension of B.Ed. programme on teacher educators is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 3.08) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 2.97), as the value of t $_{(48)}$ = 1.01 is not significant at α = .05 (table 4.276A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant effect on the impact of academic & non-academic responsibilities product dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, type of self-financed institution has no significant effect on the impact of academic & non-academic responsibilities product dimension of B.Ed. programme on teacher educators.

4.2.2.6.13   Effect of Type of Self-Financed Institution on the Impact of Resource Consultation Product Dimension of B.Ed. Programme on Teacher Educators

The statistically significant mean difference on the impact of resource consultation product dimension of B.Ed. programme on teacher educators is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 3.25) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 2.96), as the value of t $_{(48)}$ = 2.19 is significant at α = .05 favouring self-financed institutions affiliated to state government universities (table 4.276A). Therefore, the higher mean score of the impact of resource consultation product dimension of B.Ed. programme for teacher educators of self-financed institutions affiliated to state government universities indicates that self-financed institutions affiliated to state government universities have significantly more

effect than self-financed institutions affiliated to private universities on the impact of resource consultation product dimension of B.Ed. programme on teacher educators. Thus, H_o stands not accepted for the teacher educators of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has a significant effect on the impact of resource consultation product dimension of B.Ed. programme on teacher educators.

4.2.2.5.17.14 Effect of Type of Self-Financed Institution on the Impact of Professional Training Product Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of professional training product dimension of B.Ed. programme on teacher educators is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 3.15) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 2.96), as the value of t $_{(48)}$ = 1.31 is not significant at α = .05 (table 4.276A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant effect on the impact of the professional training product dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of the professional training product dimension of B.Ed. programme on teacher educators.

4.2.2.5.17.15 Effect of Type of Self-Financed Institution on the Impact of Evaluation Responsibilities Product Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of evaluation responsibilities product dimension of B.Ed. programme on teacher educators is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 3.07) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 3.17), as the value

of t $_{(48)}$ = .68 is not significant at α = .05 (table 4.276A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant effect on the impact of evaluation responsibilities product dimension of B.Ed. programme on teacher educators. Thus, H$_o$ stands accepted for the teacher educators of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of evaluation responsibilities product dimension of B.Ed. programme on teacher educators.

4.2.2.5.17.16 Effect of Type of Self-Financed Institution on the Impact of Social Responsibilities Product Dimension of B.Ed. Programme on Teacher Educators

The statistically significant mean difference on the impact of social responsibilities product dimension of B.Ed. programme on teacher educators is between the self-financed institutions affiliated to state government universities (M$_{SFISGU}$ = 3.10) vs self-financed institutions affiliated to private universities (M$_{SFIPU}$ = 2.80), as the value of t $_{(48)}$ = 2.27 is significant at α = .05 favouring self-financed institutions affiliated to state government universities (table 4.276A). Therefore, the higher mean score of the impact of social responsibilities product dimension of B.Ed. programme for teacher educators of self-financed institutions affiliated to state government universities indicates that self-financed institutions affiliated to state government universities have significantly more effect than self-financed institutions affiliated to private universities on the impact of social responsibilities product dimension of B.Ed. programme on teacher educators. Thus, H$_o$ stands not accepted for the teacher educators of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has a significant effect on the impact of social responsibilities product dimension of B.Ed. programme on teacher educators.

4.2.2.6 Effect of University on the Dimensionwise Impact of B.Ed. Programme on Teacher Educators

t-test (independent samples) was applied to study the effect of a single independent variable i.e., university on a single dependent variable i.e., the dimensionwise impact of B.Ed. programme (IBP) on teacher educators on the data obtained in terms of rating scores of teacher educators on ESIBP (Dimensionwise Data) after the computation of means and standard deviations. The term university, here, refers to two universities i.e., state government universities (SGU) and private universities (PU) (table 4.277).

The significance of the difference between means of the impact of sixteen dimensions, i.e., Mission & Vision (MV); Programme Objectives (PO); Academic Input (AI); Training Input (TI); Resource Input (RI); Professional Input (PI); Evaluation Input (EI); Pedagogical Process (PDP); Evaluation Process (EP); Professional Process (PP); Training Process (TP); Academic & Non-Academic Responsibilities Product (ANARPr); Resource Consultation Product (RCPr); Professional Training Product (PTPr); Evaluation Responsibilities Product (ERPr); and Social Responsibilities Product (SRPr) of four factors of evaluation i.e., Context, Input, Process, and Product factors, of B.Ed. programme in case of teacher educators with respect to university have been computed, compared, and tested against the following null hypothesis:

H$_o$: There is no significant difference in the dimensionwise impact of B.Ed. programme on teacher educators with respect to the university.

Table 4.277
Means Matrices Showing Significance of Difference in Means regarding the Dimensionwise Impact of B.Ed. Programme on Teacher Educators with respect to University

Sr. No.	Dimensions of B.Ed. Programme	University			SGU	PU
			N	Mean SD	13.00 2.07	14.00 1.77
1	*Mission & Vision (MV)*	**SGU**	105	13.00 2.07	-	1.78
		PU	15	14.00 1.77		**-**

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2	*Programme Objectives (PO)*			**Mean** **SD** →	12.54 2.14	13.53 1.48
		SGU	105	12.54 2.14	-	1.74
		PU	15	13.53 1.48		**-**
3	*Academic Input (AI)*			**Mean** **SD** →	6.37 1.04	6.67 .90
		SGU	105	6.37 1.04	-	1.04
		PU	15	6.67 .90		**-**
4	*Training Input (TI)*			**Mean** **SD** →	15.85 2.27	16.33 2.35
		SGU	105	15.85 2.27	-	.77
		PU	15	16.33 2.35		**-**
5	*Resource Input (RI)*			**Mean** **SD** →	6.55 1.05	6.93 1.03
		SGU	105	6.55 1.05	-	1.32
		PU	15	6.93 1.03		**-**
6	*Professional Input (PI)*			**Mean** **SD** →	9.47 1.57	10.13 1.30
		SGU	105	9.47 1.57	-	1.57
		PU	15	10.13 1.30		**-**
7	*Evaluation Input (PI)*			**Mean** **SD** →	5.94 1.37	6.53 .74
		SGU	105	5.94 1.37	-	1.64
		PU	15	6.53 .74		**-**
8	*Pedagogical Process (PDP)*			**Mean** **SD** →	16.04 2.24	16.60 1.68
		SGU	105	16.04 2.24	-	.93
		PU	15	16.60 1.68		**-**

9	*Evaluation Process (EP)*			**Mean** **SD**	→	9.60 1.54	9.67 .82
		SGU	105	9.60 1.54	-	.27
		PU	15	9.67 .82		-
10	*Professional Process (PP)*			**Mean** **SD**	→	15.93 2.40	16.40 1.55
		SGU	105	15.93 2.40	-	.73
		PU	15	16.40 1.55		-
11	*Training Process (TP)*			**Mean** **SD**	→	9.05 1.52	9.47 1.13
		SGU	105	9.05 1.52	-	1.03
		PU	15	9.47 1.13		-
12	*Academic & Non-Academic Responsibilities Product (ANAPr)*			**Mean** **SD**	→	18.01 2.59	17.80 1.97
		SGU	105	18.01 2.59	-	.30
		PU	15	17.80 1.97		-
13	*Resource Consultation Product (RCPr)*			**Mean** **SD**	→	9.51 1.57	8.87 1.51
		SGU	105	9.51 1.57	-	1.48
		PU	15	8.87 1.51		-
14	*Professional Training Product (PTPr)*			**Mean** **SD**	→	9.06 1.76	8.87 1.55
		SGU	105	9.06 1.76	-	.40
		PU	15	8.87 1.55		-
15	*Evaluation Responsibilities Product (ERPr)*			**Mean** **SD**	→	6.25 .97	6.33 .98
		SGU	105	6.25 .97	-	.32
		PU	15	6.33 .98		-

16	*Social Responsibilities Product (SRPr)*			**Mean** **SD**	5.91 1.16	5.60 1.06
		SGU	105	5.91 1.16	-	.99
		PU	15	5.60 1.06		-

[**]$\alpha = .01$ *and* [*]$\alpha = .05$

4.2.2.6.1 Effect of University on the Impact of Mission & Vision Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of mission & vision dimension of B.Ed. programme on teacher educators is between the state government universities ($M_{SGU} = 13.00$) vs private universities ($M_{PU} = 14.00$), as the value of t $_{(118)} = 1.78$ is not significant at $\alpha = .05$ (table 4.277). Therefore, the state government universities and private universities have no significant effect on the impact of the mission & vision dimension of B.Ed. programme on teacher educators. Thus, H$_o$ stands accepted for the teacher educators of the state government universities vs private universities.

Hence, the university has no significant effect on the impact of the mission & vision dimension of B.Ed. programme on teacher educators.

4.2.2.6.2 Effect of University on the Impact of Programme Objectives Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of programme objectives dimension of B.Ed. programme on teacher educators is between the state government universities ($M_{SGU} = 12.54$) vs private universities ($M_{PU} = 13.53$), as the value of t $_{(118)} = 1.74$ is not significant at $\alpha = .05$ (table 4.277). Therefore, the state government universities and private universities have no significant effect on the impact of the programme objectives dimension of B.Ed. programme on teacher educators. Thus, H$_o$ stands accepted for the teacher educators of the state government universities vs private universities.

Hence, the university has no significant effect on the impact of programme objectives dimension of B.Ed. programme on teacher educators.

4.2.2.6.3 Effect of University on the Impact of Academic Input Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of academic input dimension of B.Ed. programme on teacher educators is between the state government universities (M_{SGU} = 6.37) vs private universities (M_{PU} = 6.67), as the value of t $_{(118)}$ = 1.04 is not significant at α = .05 (table 4.277). Therefore, the state government universities and private universities have no significant effect on the impact of the academic input dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the state government universities vs private universities.

Hence, the university has no significant effect on the impact of the academic input dimension of B.Ed. programme on teacher educators.

4.2.2.6.4 Effect of University on the Impact of Training Input Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of training input dimension of B.Ed. programme on teacher educators is between the state government universities (M_{SGU} = 15.85) vs private universities (M_{PU} = 16.33), as the value of t $_{(118)}$ = .77 is not significant at α = .05 (table 4.277). Therefore, the state government universities and private universities have no significant effect on the impact of the training input dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the state government universities vs private universities.

Hence, the university has no significant effect on the impact of the training input dimension of B.Ed. programme on teacher educators.

4.2.2.6.5 Effect of University on the Impact of Resource Input Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of resource input dimension of B.Ed. programme on teacher educators is between the state government universities (M_{SGU} = 6.55) vs private universities (M_{PU} = 6.93), as the value of t $_{(118)}$ = 1.32 is not significant at α = .05 (table 4.277). Therefore, the state government

universities and private universities have no significant effect on the impact of resource input dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the state government universities vs private universities.

Hence, the university has no significant effect on the impact of the resource input dimension of B.Ed. programme on teacher educators.

4.2.2.6.6   Effect of University on the Impact of Professional Input Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of professional input dimension of B.Ed. programme on teacher educators is between the state government universities ($M_{SGU} = 9.47$) vs private universities ($M_{PU} = 10.13$), as the value of t $_{(118)}$ = 1.57 is not significant at α = .05 (table 4.277). Therefore, the state government universities and private universities have no significant effect on the impact of the professional input dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the state government universities vs private universities.

Hence, the university has no significant effect on the impact of the professional input dimension of B.Ed. programme on teacher educators.

4.2.2.6.7   Effect of University on the Impact of Evaluation Input Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of evaluation input dimension of B.Ed. programme on teacher educators is between the state government universities ($M_{SGU} = 5.94$) vs private universities ($M_{PU} = 6.53$), as the value of t $_{(118)}$ = 1.64 is not significant at α = .05 (table 4.277). Therefore, the state government universities and private universities have no significant effect on the impact of the evaluation input dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the state government universities vs private universities.

Hence, the university has no significant effect on the impact of the evaluation input dimension of B.Ed. programme on teacher educators.

4.2.2.6.8   Effect of University on the Impact of Pedagogical Process Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of pedagogical process dimension of B.Ed. programme on teacher educators is between the state government universities ($M_{SGU} = 16.04$) vs private universities ($M_{PU} = 16.60$), as the value of $t_{(118)} = .93$ is not significant at $\alpha = .05$ (table 4.277). Therefore, the state government universities and private universities have no significant effect on the impact of the pedagogical process dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the state government universities vs private universities.

Hence, the university has no significant effect on the impact of the pedagogical process dimension of B.Ed. programme on teacher educators.

4.2.2.6.9   Effect of University on the Impact of Evaluation Process Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of evaluation process dimension of B.Ed. programme on teacher educators is between the state government universities ($M_{SGU} = 9.60$) vs private universities ($M_{PU} = 9.67$), as the value of $t_{(118)} = .27$ is not significant at $\alpha = .05$ (table 4.277). Therefore, the state government universities and private universities have no significant effect on the impact of the evaluation process dimension on teacher educators. Thus, H_o stands accepted for the teacher educators of the state government universities vs private universities.

Hence, the university has no significant effect on the impact of the evaluation process dimension of B.Ed. programme on teacher educators.

4.2.2.6.10   Effect of University on the Impact of Professional Process Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of professional process dimension of B.Ed. programme on teacher educators is between the state government universities ($M_{SGU} = 15.93$) vs private universities ($M_{PU} = 16.40$), as the value of $t_{(118)} = .73$ is not significant at $\alpha = .05$ (table 4.277). Therefore, the state government universities

and private universities have no significant effect on the impact of the professional dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the state government universities vs private universities.

Hence, the university has no significant effect on the impact of the professional process dimension of B.Ed. programme on teacher educators.

4.2.2.6.11 Effect of University on the Impact of Training Process Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of training process dimension of B.Ed. programme on teacher educators is between the state government universities (M_{SGU} = 9.05) vs private universities (M_{PU} = 9.47), as the value of t $_{(118)}$ = 1.03 is not significant at α = .05 (table 4.277). Therefore, the state government universities and private universities have no significant effect on the impact of the training process dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the state government universities vs private universities.

Hence, the university has no significant effect on the impact of the training process dimension of B.Ed. programme on teacher educators.

4.2.2.6.12 Effect of University on the Impact of Academic & Non-Academic Responsibilities Product Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of academic & non-academic responsibilities product dimension of B.Ed. programme on teacher educators is between the state government universities (M_{SGU} = 18.01) vs private universities (M_{PU} = 17.80), as the value of t $_{(118)}$ = .30 is not significant at α = .05 (table 4.277). Therefore, the state government universities and private universities have no significant effect on the impact of academic & non-academic responsibilities product dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the state government universities vs private universities.

Hence, the university has no significant effect on the impact of academic & non-academic responsibilities product dimension of B.Ed. programme on teacher educators.

4.2.2.6.13   **Effect of University on the Impact of Resource Consultation Product Dimension of B.Ed. Programme on Teacher Educators**

The statistically non-significant mean difference on the impact of resource consultation product dimension of B.Ed. programme on teacher educators is between the state government universities (M_{SGU} = 9.51) vs private universities (M_{PU} = 8.87), as the value of $t_{(118)}$ = 1.48 is not significant at α = .05 (table 4.277). Therefore, the state government universities and private universities have no significant effect on the impact of the resource consultation product dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the state government universities vs private universities.

Hence, the university has no significant effect on the impact of resource consultation product dimension of B.Ed. programme on teacher educators.

4.2.2.6.14   **Effect of University on the Impact of Professional Training Product Dimension of B.Ed. Programme on Teacher Educators**

The statistically non-significant mean difference on the impact of professional training product dimension of B.Ed. programme on teacher educators is between the state government universities (M_{SGU} = 9.06) vs private universities (M_{PU} = 8.87), as the value of $t_{(118)}$ = .40 is not significant at α = .05 (table 4.277). Therefore, the state government universities and private universities have no significant effect on the impact of professional training product dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the state government universities vs private universities.

Hence, the university has no significant effect on the impact of the professional training product dimension of B.Ed. programme on teacher educators.

4.2.2.6.15   Effect of University on the Impact of Evaluation Responsibilities Product Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of evaluation responsibilities product dimension of B.Ed. programme on teacher educators is between the state government universities (M_{SGU} = 6.25) vs private universities (M_{PU} = 6.33), as the value of t $_{(118)}$ = .32 is not significant at α = .05 (table 4.277). Therefore, the state government universities and private universities have no significant effect on the impact of evaluation responsibilities product dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the state government universities vs private universities.

Hence, the university has no significant effect on the impact of evaluation responsibilities product dimension of B.Ed. programme on teacher educators.

4.2.2.6.16   Effect of University on the Impact of Social Responsibilities Product Dimension of B.Ed. Programme on Teacher Educators

The statistically non-significant mean difference on the impact of social responsibilities product dimension of B.Ed. programme on teacher educators is between the state government universities (M_{SGU} = 5.91) vs private universities (M_{PU} = 5.60), as the value of t $_{(118)}$ = .99 is not significant at α = .05 (table 4.277). Therefore, the state government universities and private universities have no significant effect on the impact of social responsibilities product dimension of B.Ed. programme on teacher educators. Thus, H_o stands accepted for the teacher educators of the state government universities vs private universities.

Hence, the university has no significant effect on the impact of social responsibilities product dimension of B.Ed. programme on teacher educators.

4.2.2.7 **EFFECT OF STATE, UNIVERSITY, AND TYPE OF INSTITUTION ON THE STATEMENTWISE IMPACT OF B.ED. PROGRAMME ON TEACHER EDUCATORS**

The objective was to study the statementwise impact of B.Ed. programme on teacher educators with respect to state, university, and type of institution. After administering ESIBP; χ^2 test was applied to study the significance of differences in the observed and expected frequencies corresponding to statementswise impact of B.Ed. programme on teacher educators with respect to state, universities, and type of institution separately.

4.2.2.7.1 **Effect of State on the Statementwise Impact of B.Ed. Programme on Teacher Educators**

To study the statementwise impact of B.Ed. programme on teacher educators with respect to state; χ^2 test was applied on the data in frequencies obtained by counting the number of participant teacher educators who opted the same option on ESIBP, with respect to three levels of the states i.e., the state of Punjab (PB), Himachal Pradesh (HP) and Haryana (HR) and the results have been presented in table 4.278 (Refer Appendix-S-IV).

The significance of differences in the observed and expected frequencies corresponding to each statement of the impact of B.Ed. programme in case of teacher educators with respect to the state have been compared and shown in table 4.278 and tested against the following null hypothesis:

H$_o$: There is no significant difference in the statementwise impact of B.Ed. programme on teacher educators with respect to the state.

A Chi-square test of independence for each statement of ESIBP-TEs was applied for computing and comparing the two combinations of observed frequencies (i.e. options 'strongly disagree' and 'disagree' as one combination and options 'agree' and 'strongly agree' as other combination) of teacher educators of the states Himachal Pradesh, Haryana and Punjab (Refer Appendix-S-IV).

Table 4.278

Significance of Differences in the Statementwise Impact of B.Ed. Programme on Teacher Educators and Order of Impact with respect to State

Sr. No.	Factor	Dimension	Statement	fo (SD + D)			fo (A + SA)			χ^2	Order of Impact
				HP	HR	PB	HP	HR	PB		
1.	Context	Mission & Vision	MV$_1$	1	3	4	14	47	51	0.07	HP = HR = PB
2.			MV$_2$	0	6	3	15	44	52	3.01	HP = HR = PB
3.			MV$_3$	0	3	8	15	47	47	4.03	HP = HR = PB
4.			MV$_4$	3	8	8	12	42	47	0.26	HP = HR = PB
5.	Context	Programme Objectives	PO$_1$	1	5	5	14	45	50	0.15	HP = HR = PB
6.			PO$_2$	4	6	11	11	44	44	2.16	HP = HR = PB
7.			PO$_3$	0	4	7	15	46	48	2.43	HP = HR = PB
8.			PO$_4$	3	10	16	12	40	39	1.34	HP = HR = PB
9.	Input	Academic Input	AI$_1$	0	2	3	15	48	52	0.88	HP = HR = PB
10.			AI$_2$	2	5	6	13	45	49	0.13	HP = HR = PB
11.	Input	Training Input	TI$_1$	2	7	11	13	43	44	0.82	HP = HR = PB
12.			TI$_2$	1	4	6	14	46	49	0.39	HP = HR = PB
13.			TI$_3$	1	4	4	14	46	51	0.04	HP = HR = PB
14.			TI$_4$	3	3	9	12	47	46	3.45	HP = HR = PB
15.			TI$_5$	3	6	11	12	44	44	1.34	HP = HR = PB
16.	Input	Resource Input	RI$_1$	1	3	2	14	47	53	0.41	HP = HR = PB
17.			RI$_2$	0	3	6	15	47	49	2.30	HP = HR = PB
18.	Input	Professional Input	PI$_1$	2	7	5	13	43	50	0.66	HP = HR = PB
19.			PI$_2$	3	8	11	12	42	44	0.31	HP = HR = PB
20.			PI$_3$	2	7	6	13	43	49	0.24	HP = HR = PB
21.	Input	Evaluation Input	EI$_1$	5	10	17	10	40	38	1.98	HP = HR = PB
22.			EI$_2$	3	5	8	12	45	47	1.13	HP = HR = PB
23.	Process	Pedagogical Process	PDP$_1$	0	4	6	15	46	49	1.85	HP = HR = PB
24.			PDP$_2$	1	3	7	14	47	48	1.55	HP = HR = PB
25.			PDP$_3$	0	2	5	15	48	50	2.30	HP = HR = PB
26.			PDP$_4$	2	5	5	13	45	50	0.24	HP = HR = PB
27.			PDP$_5$	3	1	9	12	49	46	**7.09***	**HR > PB > HP**

$^{**}\alpha = .01$ and $^{*}\alpha = .05$; χ^2 = Chi-Square; PB-Punjab; HP-Himachal Pradesh; HR-Haryana

Table 4.278

Significance of Differences in the Statementwise Impact of B.Ed. Programme on Teacher Educators and Order of Impact with respect to State

Sr. No.	Factor	Dimension	Statement	fo (SD + D)			fo (A + SA)			χ^2	Order of Impact
				HP	HR	PB	HP	HR	PB		
28.	Process	Evaluation Process	EP_1	1	8	8	14	42	47	0.84	HP = HR = PB
29.			EP_2	1	4	2	14	46	53	0.93	HP = HR = PB
30.			EP_3	0	6	6	15	44	49	1.94	HP = HR = PB
31.	Process	Professional Process	PP_1	4	6	13	11	44	42	2.91	HP = HR = PB
32.			PP_2	0	2	5	15	48	50	2.30	HP = HR = PB
33.			PP_3	0	5	8	15	45	47	2.64	HP = HR = PB
34.			PP_4	2	2	6	13	48	49	2.20	HP = HR = PB
35.			PP_5	4	7	9	11	43	46	1.34	HP = HR = PB
36.	Process	Training Process	TP_1	3	3	4	12	47	51	3.11	HP = HR = PB
37.			TP_2	3	7	8	12	43	47	0.34	HP = HR = PB
38.			TP_3	6	12	11	9	38	44	2.57	PB = HR = HP
39.	Product	Academic & Non-Academic Responsibilities Product	$ANARPr_1$	6	33	44	9	17	11	**9.25****	**HP > HR > PB**
40.			$ANARPr_2$	2	1	6	13	49	49	3.84	HP = HR = PB
41.			$ANARPr_3$	3	10	11	12	40	44	0.00	HP = HR = PB
42.			$ANARPr_4$	5	1	7	10	49	48	**12.10****	**HR > PB > HP**
43.			$ANARPr_5$	0	7	9	15	43	46	2.76	HP = HR = PB
44.			$ANARPr_6$	1	6	9	14	44	46	1.09	HP = HR = PB
45.	Product	Resource Consultation Product	$RCPr_1$	3	4	6	12	46	49	1.72	HP = HR = PB
46.			$RCPr_2$	3	2	10	12	48	45	**5.70***	**HR > PB > HP**
47.			$RCPr_3$	3	6	10	12	44	45	0.97	HP = HR = PB
48.	Product	Professional Training Product	$PTPr_1$	4	12	15	11	38	40	0.15	HP = HR = PB
49.			$PTPr_2$	2	7	13	13	43	42	1.91	HP = HR = PB
50.			$PTPr_3$	3	5	12	12	45	43	2.77	HP = HR = PB
51.	Product	Evaluation Responsibilities Product	$ERPr_1$	0	7	7	15	43	48	2.31	HP = HR = PB
52.			$ERPr_2$	1	6	9	14	44	46	1.09	HP = HR = PB
53.	Product	Social Responsibilities Product	$SRPr_1$	6	14	22	9	36	33	1.85	HP = HR = PB
54.			$SRPr_2$	0	9	10	15	41	45	3.23	HP = HR = PB

**α = .01 and *α = .05; χ^2 = Chi-Square; PB-Punjab; HP-Himachal Pradesh; HR-Haryana

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From table 4.278, there is an indication of significant differences in the effect of the state (i.e., three states Himachal Pradesh, Haryana, and Punjab) on the statementwise impact of B.Ed. programme on teacher educators for four statements (i.e., PDP_5; $ANARPr_1$; $ANARPr_4$; and $RCPr_2$) and non-significant differences in the effect of the state (i.e., three states Himachal Pradesh, Haryana, and Punjab) on the statementwise impact of B.Ed. programme on teacher educators for fifty statements (i.e., MV_1; MV_2; MV_3; MV_4; PO_1; PO_2; PO_3; PO_4; AI_1; AI_2; TI_1; TI_2; TI_3; TI_4; TI_5; RI_1; RI_2; PI_1; PI_2; PI_3; EI_1; EI_2; PDP_1; PDP_2; PDP_3; PDP_4; EP_1; EP_2; EP_3; PP_1; PP_2; PP_3; PP_4; PP_5; TP_1; TP_2; TP_3; $ANARPr_2$; $ANARPr_3$; $ANARPr_5$; $ANARPr_6$; $RCPr_1$; $RCPr_3$; $PTPr_1$; $PTPr_2$; $PTPr_3$; $ERPr_1$; $ERPr_2$; $SRPr_1$; and $SRPr_2$). Thus, H_o stands not accepted for above mentioned four seven statements whereas H_o stands accepted for above mentioned fifty statements of ESIBP.

4.2.2.7.1.1 Effect of Himachal Pradesh on Statementwise Impact of B.Ed. Programme on Teacher Educators

The state of Himachal Pradesh has more effect on the impact of B.Ed. programme on teacher educators for one statement of academic & non-academic responsibilities product (ANARPr) dimension i.e., $ANARPr_1$ (Workload has reduced) of Product factor of B.Ed. programme as compared to Haryana and Punjab (table 4.278).

4.2.2.7.1.2 Effect of Haryana on Statementwise Impact of B.Ed. Programme on Teacher Educators

The state of Haryana has more effect on the impact of B.Ed. programme on teacher educators for one statement of pedagogical process (PDP) dimension i.e., PDP_5 (Use different learning resource centers for developing subject-specific competencies) of Process factor; one statement of academic & non-academic responsibilities product (ANARPr) dimension i.e., $ANARPr_4$ (Non-academic responsibilities have increased); & one statement of resource consultation product (RCPr) dimension i.e., $RCPr_2$ (Develop competencies in using online resources in the teaching-learning process) of Product factor of B.Ed. programme as compared to the state Punjab and Himachal Pradesh. The state of Haryana has more effect on the impact of B.Ed. programme on teacher educators for one statement of academic & non-academic responsibilities product (ANARPr)

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dimension i.e., $ANARPr_1$ (Workload has reduced) of Product factor of B.Ed. programme as compared to the state Punjab (table 4.278).

4.2.2.7.1.3   Effect of Punjab on Statementwise Impact of B.Ed. Programme on Teacher Educators

The state Punjab has more effect on the impact of B.Ed. programme on teacher educators for one statement of pedagogical process (PDP) dimension i.e., PDP_5 (Use different learning resource centers for developing subject-specific competencies) of Process factor; one statement of academic & non-academic responsibilities product (ANARPr) dimension i.e., $ANARPr_4$ (Non-academic responsibilities have increased); & one statement of resource consultation product (RCPr) dimension i.e., $RCPr_2$ (Develop competencies in using online resources in the teaching-learning process) of Product factor of B.Ed. programme as compared to the state Himachal Pradesh (table 4.278).

4.2.2.7.2   Effect of University on the Statementwise Impact of B.Ed. Programme on Teacher Educators

To study the statementwise impact of B.Ed. programme on teacher educators with respect to university; χ^2 test was applied on the data in frequencies obtained by counting the number of participant teacher educators who opted the same option on ESIBP, with respect to two levels of the universities i.e., state government universities (SGU) and private universities (PU) and the results have been presented in table 4.279 (Refer Appendix-S-V).

The significance of differences in the observed and expected frequencies corresponding to each statement of the impact of B.Ed. programme in case of teacher educators with respect to university have been compared and shown in table 4.279 and tested against the following null hypothesis:

H_o: There is no significant difference in the statementwise impact of B.Ed. programme on teacher educators with respect to the university.

Table 4.279

Significance of Differences in the Statementwise Impact of B.Ed. Programme on Teacher Educators and Order of Impact with respect to University

Sr. No.	Factor	Dimension	Statement	$fo_{(SD + D)}$		$fo_{(A + SA)}$		χ^2	Order of Impact
				SGU	PU	SGU	PU		
1.	Context	Mission & Vision	MV_1	6	2	99	13	1.22	SGU = PU
2.			MV_2	8	1	97	14	0.02	SGU = PU
3.			MV_3	11	0	94	15	1.73	SGU = PU
4.			MV_4	19	0	86	15	**3.22***	**PU > SGU**
5.	Context	Programme Objectives	PO_1	10	1	95	14	0.13	SGU = PU
6.			PO_2	19	2	86	13	0.21	SGU = PU
7.			PO_3	10	1	95	14	0.13	SGU = PU
8.			PO_4	29	0	76	15	**5.46****	**PU > SGU**
9.	Input	Academic Input	AI_1	5	0	100	15	0.75	SGU = PU
10.			AI_2	13	0	92	15	2.08	SGU = PU
11.	Input	Training Input	TI_1	19	1	86	14	1.23	SGU = PU
12.			TI_2	10	1	95	14	0.13	SGU = PU
13.			TI_3	8	1	97	14	0.02	SGU = PU
14.			TI_4	13	2	92	13	0.01	SGU = PU
15.			TI_5	17	3	88	12	0.14	SGU = PU
16.	Input	Resource Input	RI_1	6	0	99	15	0.90	SGU = PU
17.			RI_2	8	1	97	14	0.02	SGU = PU
18.	Input	Professional Input	PI_1	13	1	92	14	0.42	SGU = PU
19.			PI_2	19	3	86	12	0.03	SGU = PU
20.			PI_3	15	0	90	15	2.45	SGU = PU
21.	Input	Evaluation Input	EI_1	32	0	73	15	**6.23****	**PU > SGU**
22.			EI_2	16	0	89	15	2.64	SGU = PU
23.	Process	Pedagogical Process	PDP_1	10	0	95	15	1.56	SGU = PU
24.			PDP_2	10	1	95	14	0.13	SGU = PU
25.			PDP_3	6	1	99	14	0.02	SGU = PU
26.			PDP_4	10	2	95	13	0.21	SGU = PU
27.			PDP_5	11	2	94	13	0.11	SGU = PU

** $\alpha = .01$ and * $\alpha = .05$; χ^2 = Chi-Square; SGU-State Government Universities; PU-Private Universities

Table 4.279

Significance of Differences in the Statementwise Impact of B.Ed. Programme on Teacher Educators and Order of Impact with respect to University

Sr. No.	Factor	Dimension	Statement	fo (SD + D)		fo (A + SA)		χ^2	Order of Impact
				SGU	PU	SGU	PU		
28.	Process	Evaluation Process	EP_1	17	0	88	15	**2.83***	**PU > SGU**
29.			EP_2	7	0	98	15	1.06	SGU = PU
30.			EP_3	10	2	95	13	0.21	SGU = PU
31.	Process	Professional Process	PP_1	22	1	83	14	1.73	SGU = PU
32.			PP_2	6	1	99	14	0.02	SGU = PU
33.			PP_3	11	2	94	13	0.11	SGU = PU
34.			PP_4	10	0	95	15	1.56	SGU = PU
35.			PP_5	20	0	85	15	**3.43***	**PU > SGU**
36.	Process	Training Process	TP_1	9	1	96	14	0.06	SGU = PU
37.			TP_2	17	1	88	14	0.93	SGU = PU
38.			TP_3	28	1	77	14	**2.86***	**PU > SGU**
39.	Product	Academic & Non- Academic Responsibilities Product	$ANARPr_1$	72	11	33	4	0.14	SGU = PU
40.			$ANARPr_2$	9	0	96	15	1.39	SGU = PU
41.			$ANARPr_3$	21	3	84	12	0.00	SGU = PU
42.			$ANARPr_4$	13	0	92	15	2.08	SGU = PU
43.			$ANARPr_5$	13	3	92	12	0.66	SGU = PU
44.			$ANARPr_6$	13	3	92	12	0.66	SGU = PU
45.	Product	Resource Consultation Product	$RCPr_1$	11	2	94	13	0.11	SGU = PU
46.			$RCPr_2$	12	3	93	12	0.88	SGU = PU
47.			$RCPr_3$	14	5	91	10	**3.94***	**SGU > PU**
48.	Product	Professional Training Product	$PTPr_1$	28	3	77	12	0.30	SGU = PU
49.			$PTPr_2$	20	2	85	13	0.29	SGU = PU
50.			$PTPr_3$	18	2	87	13	0.14	SGU = PU
51.	Product	Evaluation Responsibilities Product	$ERPr_1$	13	1	92	14	0.42	SGU = PU
52.			$ERPr_2$	14	2	91	13	0.00	SGU = PU
53.	Product	Social Responsibilities Product	$SRPr_1$	36	6	69	9	0.19	SGU = PU
54.			$SRPr_2$	16	3	89	12	0.22	SGU = PU

$^{**}\alpha = .01$ and $^*\alpha = .05$; χ^2 = Chi-Square; SGU-State Government Universities; PU-Private Universities

A Chi-square test of independence for each statement of ESIBP-TEs was applied for computing and comparing the two combinations of observed frequencies (i.e. options 'strongly disagree' and 'disagree' as one combination and options 'agree' and 'strongly agree' as other combination) of teacher educators of the state government universities and private universities (Refer Appendix-S-V).

From table 4.279, there is an indication of significant differences in the effect of the university (i.e., state government universities and private universities) on the statementwise impact of B.Ed. programme on teacher educators for seven statements (i.e., MV_4; PO_4; EI_1; EP_1; PP_5; TP_3; and $RCPr_3$) and non-significant differences in the effect of the state (i.e., state government universities and private universities) on the statementwise impact of B.Ed. programme on teacher educators for forty seven statements (i.e., MV_1; MV_2; MV_3; PO_1; PO_2; PO_3; AI_1; AI_2; TI_1; TI_2; TI_3; TI_4; TI_5; RI_1; RI_2; PI_1; PI_2; PI_3; EI_2; PDP_1; PDP_2; PDP_3; PDP_4; PDP_5; EP_2; EP_3; PP_1; PP_2; PP_3; PP_4; TP_1; TP_2; $ANARPr_1$; $ANARPr_2$; $ANARPr_3$; $ANARPr_4$; $ANARPr_5$; $ANARPr_6$; $RCPr_1$; $RCPr_2$; $PTPr_1$; $PTPr_2$; $PTPr_3$; $ERPr_1$; $ERPr_2$; $SRPr_1$; and $SRPr_2$). Thus, H_o stands not accepted for above mentioned seven statements whereas H_o stands accepted for above mentioned forty-seven statements of ESIBP.

4.2.2.7.2.1   Effect of State Government Universities on Statementwise Impact of B.Ed. Programme on Teacher Educators

The state government universities have more effect on the impact of B.Ed. programme on teacher educators for one statement of Resource Consultation Product (RCPr) dimension i.e., $RCPr_3$ (Consult more library resources to prepare instructional inputs) of Product factor of B.Ed. programme as compared to private universities (table 4.279).

4.2.2.7.2.2   Effect of Private Universities on Statementwise Impact of B.Ed. Programme on Teacher Educators

The private universities have more effect on the impact of B.Ed. programme on teacher educators for one statement of mission & vision (MV) dimension i.e., MV_4 (Develops inclusive competencies to deal with diverse students); and one statement of programme objectives (PO) dimension i.e., PO_4 (Increases employment opportunities for prospective

teachers) of Context factor; one statement of evaluation input (EI) dimension i.e., EI_1 (Use of rubrics for evaluation)of Input factor; one statement of the evaluation process (EP) dimension i.e., EP_1 (Discuss detailed evaluation criteria at the beginning of the lesson); one statement of the professional process (PP) dimension i.e., PP_5 (Organize practice sessions for the preparation of Teacher Eligibility Test); and one statement of Training Process (TP) dimension i.e., TP_3 (Organize community projects in collaboration with NGOs) of Process factor of B.Ed. programme as compared to state government universities (table 4.279).

4.2.2.7.3   Effect of Type of Institution on the Statementwise Impact of B.Ed. Programme on Teacher Educators

To study the statementwise impact of B.Ed. programme on teacher educators with respect to the type of institution; χ^2 test was applied on the data in frequencies obtained by counting the number of participant teacher educators who opted the same option on ESIBP, with respect to three levels of the type of institution i.e., the government colleges of education (GCE), grant-in-aid colleges of education (GIACE) and self-financed colleges of education (SFCE) and the results have been presented in table 4.280 (Refer appendix-S-VI).

The significance of differences in the observed and expected frequencies corresponding to each statement of the impact of B.Ed. programme in the case of teacher educators with respect to the type of institution has been compared and shown in table 4.280 and tested against the following null hypothesis:

H_o: There is no significant difference in the statementwise impact of B.Ed. programme on teacher educators with respect to the type of institution.

A Chi-square test of independence for each statement of ESIBP-TEs was applied for computing and comparing the two combinations of observed frequencies (i.e. options 'strongly disagree' and 'disagree' as one combination and options 'agree' and 'strongly agree' as other combination) of teacher educators of the government, grant-in-aid and self-financed colleges of education (Refer Appendix-S-VI).

Table 4.280

Significance of Differences in the Statementwise Impact of B.Ed. Programme on Teacher Educators and Order of Impact with respect to Type of Institution

Sr. No.	Factor	Dimension	Statement	fo (SD + D)			fo (A + SA)			χ^2	Order of Impact
				GCE	GIACE	SFCE	GCE	GIACE	SFCE		
1.	Context	Mission & Vision	MV_1	4	2	2	31	33	48	1.90	GCE=GICE=SFCE
2.			MV_2	3	1	5	32	34	45	1.60	GCE=GICE=SFCE
3.			MV_3	6	3	2	29	32	48	4.29	GCE=GICE=SFCE
4.			MV_4	9	4	6	26	31	44	3.63	GCE=GICE=SFCE
5.	Context	Programme Objectives	PO_1	4	4	3	31	31	47	1.03	GCE=GICE=SFCE
6.			PO_2	12	6	3	23	29	47	11.41**	SFCE>GIACE>GCE
7.			PO_3	5	5	1	30	30	49	5.29*	SFCE>GCE=GIACE
8.			PO_4	10	16	3	25	19	47	18.24**	SFCE>GCE>GIACE
9.	Input	Academic Input	AI_1	3	2	0	32	33	50	4.08	GCE=GICE=SFCE
10.			AI_2	4	7	2	31	28	48	5.47*	SFCE>GCE>GIACE
11.	Input	Training Input	TI_1	8	8	4	27	27	46	4.64*	SFCE>GCE=GIACE
12.			TI_2	4	5	2	31	30	48	2.92	GCE=GICE=SFCE
13.			TI_3	4	3	2	31	32	48	1.72	GCE=GICE=SFCE
14.			TI_4	5	6	4	30	29	46	1.72	GCE=GICE=SFCE
15.			TI_5	3	7	10	32	28	40	2.33	GCE=GICE=SFCE
16.	Input	Resource Input	RI_1	2	3	1	33	32	49	1.92	GCE=GICE=SFCE
17.			RI_2	6	1	2	29	34	48	6.66*	GIACE>SFCE>GCE
18.	Input	Professional Input	PI_1	6	6	2	29	29	48	4.89*	SFCE>GCE=GIACE
19.			PI_2	9	9	4	26	26	46	6.11*	SFCE>GCE=GIACE
20.			PI_3	9	4	2	26	31	48	8.93**	SFCE>GIACE>GCE
21.	Input	Evaluation Input	EI_1	13	14	5	22	21	45	12.25**	SFCE>GCE>GIACE
22.			EI_2	10	5	1	25	30	49	12.62**	SFCE>GIACE>GCE
23.	Process	Pedagogical Process	PDP_1	5	3	2	30	32	48	2.86	GCE=GICE=SFCE
24.			PDP_2	7	3	1	28	32	49	8.03**	SFCE>GIACE>GCE
25.			PDP_3	5	1	1	30	34	49	6.45*	SFCE>GIACE>GCE
26.			PDP_4	4	4	4	31	31	46	0.38	GCE=GICE=SFCE
27.			PDP_5	5	4	4	30	31	46	0.86	GCE=GICE=SFCE

**α = .01 and * α = .05; χ^2 = Chi-Square; Government Colleges of Education, Grant-In-Aid Colleges of Education and Self-Financed Colleges of Education*

Table 4.280
Significance of Differences in the Statementwise Impact of B.Ed. Programme on Teacher Educators and Order of Impact with respect to Type of Institution

Sr. No.	Factor	Dimension	Statement	$fo_{(SD + D)}$			$fo_{(A + SA)}$			χ^2	Order of Impact
				GCE	GIACE	SFCE	GCE	GIACE	SFCE		
28.	Process	Evaluation Process	EP_1	8	5	4	27	30	46	3.74	GCE=GICE=SFCE
29.			EP_2	4	3	0	31	32	50	**5.57***	**SFCE>GIACE>GCE**
30.			EP_3	5	5	2	30	30	48	3.43	GCE=GICE=SFCE
31.	Process	Professional Process	PP_1	10	7	6	25	28	44	3.67	GCE=GICE=SFCE
32.			PP_2	3	2	2	32	33	48	0.78	GCE=GICE=SFCE
33.			PP_3	7	3	3	28	32	47	4.44	GCE=GICE=SFCE
34.			PP_4	4	5	1	31	30	49	**4.69***	**SFCE>GCE>GIACE**
35.			PP_5	8	11	1	27	24	49	**14.20***	**SFCE>GCE>GIACE**
36.	Process	Training Process	TP_1	2	6	2	33	29	48	**5.10***	**SFCE>GCE>GIACE**
37.			TP_2	6	9	3	29	26	47	**6.45***	**SFCE>GCE>GIACE**
38.			TP_3	8	14	7	27	21	43	**7.64***	**SFCE>GCE>GIACE**
39.	Product	Academic & Non-Academic Responsibilities Product	$ANARPr_1$	25	28	30	10	7	20	3.98	GCE=GICE=SFCE
40.			$ANARPr_2$	5	3	1	30	32	49	4.56	GCE=GICE=SFCE
41.			$ANARPr_3$	9	8	7	26	27	43	2.02	GCE=GICE=SFCE
42.			$ANARPr_4$	4	5	4	31	30	46	0.86	GCE=GICE=SFCE
43.			$ANARPr_5$	7	5	4	28	30	46	2.60	GCE=GICE=SFCE
44.			$ANARPr_6$	6	5	5	29	30	45	0.95	GCE=GICE=SFCE
45.	Product	Resource Consultation Product	$RCPr_1$	3	5	5	32	30	45	0.65	GCE=GICE=SFCE
46.			$RCPr_2$	6	5	4	29	30	46	1.72	GCE=GICE=SFCE
47.			$RCPr_3$	7	6	6	28	29	44	1.05	GCE=GICE=SFCE
48.	Product	Professional Training Product	$PTPr_1$	13	9	9	22	26	41	3.94	GCE=GICE=SFCE
49.			$PTPr_2$	11	7	4	24	28	46	**7.64***	**SFCE>GIACE>GCE**
50.			$PTPr_3$	5	10	5	30	25	45	**5.31***	**SFCE>GCE>GIACE**
51.	Product	Evaluation Responsibilities Product	$ERPr_1$	5	3	6	30	32	44	0.56	GCE=GICE=SFCE
52.			$ERPr_2$	7	4	5	28	31	45	1.94	GCE=GICE=SFCE
53.	Product	Social Responsibilities Product	$SRPr_1$	12	16	14	23	19	36	2.85	GCE=GICE=SFCE
54.			$SRPr_2$	8	7	4	27	28	46	4.05	GCE=GICE=SFCE

**α = .01 and * α = .05; χ^2 = Chi-Square; Government Colleges of Education, Grant-In-Aid Colleges of Education and Self-Financed Colleges of Education*

From table 4.280, there is an indication of significant differences in the effect of type of institution (i.e., government colleges of education, grant-in-aid colleges of education, and self-financed colleges of education) on the statementwise impact of B.Ed. programme on teacher educators for twenty one statements (i.e., PO_2; PO_3; PO_4; AI_2; TI_1; RI_2; PI_1; PI_2; PI_3; EI_1; EI_2; PDP_2; PDP_3; EP_2; PP_4; PP_5; TP_1; TP_2; TP_3; $PTPr_2$; and $PTPr_3$) and non significant differences in the effect of the state (i.e., government, grant-in-aid and self-financed colleges of education) on the statementwise impact of B.Ed. programme on teacher educators for thirty three statements (i.e., MV_1; MV_2; MV_3; MV_4; PO_1; AI_1; TI_2; TI_3; TI_4; TI_5; RI_1; PDP_1; PDP_4; PDP_5; EP_1; EP_3; PP_1; PP_2; PP_3; $ANARPr_1$; $ANARPr_2$; $ANARPr_3$; $ANARPr_4$; $ANARPr_5$; $ANARPr_6$; $RCPr_1$; $RCPr_2$; $RCPr_3$; $PTPr_1$; $ERPr_1$; $ERPr_2$; $SRPr_1$; and $SRPr_2$). Thus, H_o stands not accepted for above mentioned twenty-one statements whereas H_o stands accepted for above-mentioned thirty-three statements of ESIBP.

4.2.2.7.3.1   Effect of Government Colleges of Education on Statementwise Impact of B.Ed. Programme on Teacher Educators

The government colleges of education have more effect on the impact of B.Ed. programme on teacher educators for one statement of programme objectives (PO) dimension i.e., PO_4 (Increases employment opportunities for prospective teachers) of Context factor; one statement of academic input (AI) dimension i.e., AI_2 (B.Ed. programme give inputs to include subject-specific field-based assignments); and one statement of evaluation input (EI) dimension i.e., EI_1 (Use of rubrics for evaluation) of Input factor; two statements of professional process (PP) dimension i.e., PP_4 (Organize workshops/seminars for professional enhancement of pupil teachers) and PP_5 (Organize practice sessions for the preparation of Teacher Eligibility Test); three statements of training process (TP) dimension i.e., TP_1 (Work as facilitator in field attachment); TP_2 (Organize service-learning activities as per needs of the society) and TP_3 (Organize community projects in collaboration with NGOs) of Process factor; &one statement of professional training product (PTPr) dimension i.e., $PTPr_3$ (Involvement in teaching

internship has increased) of Product factor of B.Ed. programme as compared to grant-in-aid colleges of education (table 4.280).

4.2.2.7.3.2   Effect of Grant-In-Aid Colleges of Education on Statementwise Impact of B.Ed. Programme on Teacher Educators

The grant-in-aid colleges of education have more effect on the impact of B.Ed. programme on teacher educators for one statement of resource input (RI) dimension i.e., RI_2 (Use modern learning facilities in classroom teaching) of Input factor of B.Ed. programme as compared to self-financed colleges of education and government colleges of education (table 4.280).

The grant-in-aid colleges of education have more effect on the impact of B.Ed. programme on teacher educators for one statement of programme objectives (PO) dimension i.e., PO_2 (Emphasizes on rigorous teaching internship practice) of Context factor; one statement of professional input (PI) dimension i.e., PI_3 (Give extra input for state/center level teacher eligibility test); one statement of evaluation input (EI) dimension i.e., EI_2 (Supervise and evaluate the academic work with the help of technology) of Input factor; two statements of the pedagogical process (PDP) dimension i.e., PDP_2 (Conduct case studies/projects as strategies to sensitize about the community) and PDP_3 (Use an appropriate blend of resources in the teaching-learning process); one statement of the evaluation process (EP) dimension i.e., EP_2 (Apply various formative assessment strategies in evaluation); & one statement of professional training product (PTPr) dimension i.e., $PTPr_2$ (Working more for professional enhancement activities) of Product factor of B.Ed. programme as compared to government colleges of education (table 4.280).

4.2.2.7.3.3   Effect of Self-Financed Colleges of Education on Statementwise Impact of B.Ed. Programme on Teacher Educators

The self-financed colleges of education have more effect on the impact of B.Ed. programme on teacher educators for three statements of programme objectives (PO) dimension i.e., PO_2 (Emphasizes on rigorous teaching internship practice); PO_3 (Link school knowledge with community life) and PO_4 (Increases employment opportunities for

prospective teachers) of Context factor; one statement of academic input (AI) dimension i.e., AI_2 (B.Ed. programme give inputs to include subject specific field based assignments); one statement of training input (TI) dimension i.e., TI_1 (B.Ed. programme give input to execution of diverse projects); three statements of professional input (PI) dimension i.e., PI_1 (Participate in different professional activities for the enhancement of professional capacities) and PI_2 (Work in collaborative partnership with community and NGOs) and PI_3 (Give extra input for state/center level teacher eligibility test); two statements of evaluation input (EI) dimension i.e., EI_1 (Use of rubrics for evaluation) and EI_2 (Supervise and evaluate the academic work with the help of technology) of Input factor; two statements of pedagogical process (PDP) dimension i.e., PDP_2 (Conduct case studies/projects as strategies to sensitize about community) and PDP_3 (Use appropriate blend of resources in teaching learning process); one statement of evaluation process (EP) dimension i.e., EP_2 (Apply various formative assessment strategies in evaluation); two statements of professional process (PP) dimension i.e., PP_4 (Organize workshops/seminars for professional enhancement of pupil teachers) and PP_5 (Organize practice sessions for the preparation of Teacher Eligibility Test); three statements of training process (TP) dimension i.e., TP_1 (Work as facilitator in field attachment); TP_2 (Organize service learning activities as per needs of the society) and TP_3 (Organize community projects in collaboration with NGOs) of Process factor; &two statements of professional training product (PTPr) dimension i.e., $PTPr_3$ (Involvement in teaching internship has increased) and $PTPr_2$ (Working more for professional enhancement activities) of Productfactor of B.Ed. programme as compared to government colleges of education and grant-in-aid colleges of education (table 4.280).

Now, the summary of the results, related to the impact of B.Ed. programme on teacher educators with respect to state, university, and type of institution, are pointwise mentioned below:

1. The state of Haryana has significantly more effect than that of both the states of Punjab and Himachal Pradesh on the impact of B.Ed. programme on teacher educators with respect to one dimension (i.e., programme objectives (PO) dimension) of B.Ed. programme whereas both the states of Punjab and Himachal Pradesh do not have significant difference on the impact of programme objectives (PO) dimension of B.Ed. programme on teacher educators. On the other hand, the states of Punjab, Haryana, and Himachal Pradesh have no significant differences on the impact of B.Ed. programme on teacher educators with respect to total scores; four factors (i.e., Context, Input, Process, and Product factors); and fifteen dimensions (i.e., mission & vision (MV), academic input (AI), training input (TI), resource input (RI), professional input (PI), evaluation input (EI), pedagogical process (PDP), evaluation process (EP), professional process (PP), training process (TP), academic & non-academic responsibilities product (ANAPr), resource consultation product (RCPr), professional training product (PTPr), evaluation responsibilities product (ERPr) and social responsibilities product (SRPr) dimensions) of B.Ed. programme on teacher educators.

2. The states of Himachal Pradesh, Haryana, and Punjab have statementwise significant differences on the impact of B.Ed. programme on teacher educators with respect to four statements i.e. use different learning resource centers for developing subject-specific competencies (PDP_5), reduced workload ($ANARPr_1$); increased non-academic responsibilities have ($ANARPr_4$); and developed competencies in using online resources in the teaching-learning process ($RCPr_2$) as compared to rest of the statements (i.e., fifty statements).

3. The self-financed colleges of education have significantly more effect than both the grant-in-aid colleges of education and government colleges of education on the impact of B.Ed. programme on teacher educators with respect to two factors (i.e., Context and Input factors); and two dimensions (i.e., PO and EI dimensions) of B.Ed. programme whereas both the grant-in-aid colleges of education and government colleges of education do not have a significant difference in the effect on the impact of B.Ed. programme on teacher educators with respect to two factors (i.e., Context and Input factors); and two dimensions (i.e., programme objectives (PO) and evaluation input (EI) dimensions) of B.Ed. programme Context factor of B.Ed. programme on teacher educators. On the other hand, all the three types of institutions i.e. government colleges of education, grant-in-aid colleges of education, and self-financed colleges of education have no significant difference in the effect on the impact of B.Ed. programme on teacher educators with respect to total scores; two factors (i.e., Process and Product factors); and fourteen dimensions (i.e., mission & vision (MV), academic input (AI), training input (TI), resource input (RI), professional input (PI), pedagogical process (PDP), evaluation process (EP), professional process (PP), training process (TP), academic & non-academic responsibilities product (ANAPr), resource consultation product (RCPr), professional training product (PTPr), evaluation responsibilities product (ERPr) and social responsibilities product (SRPr) dimensions) of B.Ed. programme.

4. The government colleges of education, grant-in-aid colleges of education, and self-financed colleges of education have statementwise significant differences on the impact of B.Ed. programme on teacher educators with respect to twenty one statements i.e., rigorous teaching internship practice (PO_2), link school knowledge with community life (PO_3), increases employment opportunities (PO_4), include subject specific field based assignments (AI_2), execute diverse projects (TI_1), use modern learning facilities in classroom teaching (RI_2), professional activities for the enhancement of professional capacities (PI_1), work in collaborative

partnership with community and NGOs (PI$_2$), extra input for state/center level teacher eligibility test (PI$_3$); use of rubrics for evaluation (EI$_1$), supervise and evaluate the academic work with the help of technology (EI$_2$), conducted case studies/projects as strategies to sensitize about community (PDP$_2$), used appropriate blend of resources in teaching learning process (PDP$_3$), applied various formative assessment strategies in evaluation (EP$_2$), Organized workshops/seminars for professional enhancement (PP$_4$), organized practice sessions for the preparation of Teacher Eligibility Test (PP$_5$), worked as facilitator in field attachment (TP$_1$), organized service learning activities as per needs of the society (TP$_2$) and organized community projects in collaboration with NGOs (TP$_3$), worked more for professional enhancement activities (PTPr$_2$) and increased involvement in teaching internship (PTPr$_3$).

5. Both state and type of institution independently as well as together have no significant effect on the impact of B.Ed. programme on teacher educators with respect to total scores; three factors (i.e., Input, Process, and Product factors); and eleven dimensions (i.e., mission & vision (MV), academic input (AI), resource input (RI), professional input (PI), pedagogical process (PDP), evaluation process (EP), professional process (PP), academic & non-academic responsibilities product (ANAPr), professional training product (PTPr), evaluation responsibilities product (ERPr) and social responsibilities product (SRPr) dimensions) of B.Ed. programme.

6. The state, independently, has no significant and type of institution, independently, has a significant effect but both state and type of institution together have a significant effect on the impact of B.Ed. programme on teacher educators with respect to one factor (i.e., Context factor) and eleven dimensions (i.e., programme objectives (PO) of B.Ed. programme on teacher educators.

7. Both state and type of institution independently have no significant effect but together have a significant effect on the impact of B.Ed. programme on teacher educators with respect to three dimensions (i.e., training input (TI), training

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process (TP), and resource consultation product (RCPr) dimensions) of B.Ed. programme.

8. The type of institution, independently, has a significant effect and the state, independently, has no significant effect but both the state and type of institution together have no significant effect on the impact of B.Ed. programme on teacher educators with respect to one dimension (i.e., evaluation input (EI) dimension) of B.Ed. programme.

9. The state government universities and private universities have no significant effect on the impact of B.Ed. programme with respect to total scores; all the four factors (i.e., Context, Input, Process, and Product factors); and all the sixteen dimensions (i.e., mission & vision (MV), programme objectives (PO), academic input (AI), training input (TI), resource input (RI), professional input (PI), evaluation input (EI), pedagogical process (PDP), evaluation process (EP), professional process (PP), training process (TP), academic & non-academic responsibilities product (ANARPr), resource consultation product (RCPr), professional training product (PTPr), evaluation responsibilities product (ERPr) and social responsibilities product (SRPr) dimensions) of B.Ed. programme on teacher educators.

10. The self-financed colleges of education affiliated with state government universities have a significant effect on the impact of B.Ed. programme with respect to two dimensions (i.e., resource consultation product (RCPr), and social responsibilities product (SRPr) dimensions) as compared to self-financed colleges of education affiliated to private universities. On the other hand, the self-financed colleges of education affiliated to state government universities and private universities have no significant effect on the impact of B.Ed. programme with respect to total scores; all the four factors (i.e., Context, Input, Process, and Product factors); and fourteen dimensions (i.e., mission & vision (MV), programme objectives (PO), academic input (AI), training input (TI), resource input (RI), professional input (PI), evaluation input (EI), pedagogical process

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(PDP), evaluation process (EP), professional process (PP), training process (TP), academic & non-academic responsibilities product (ANARPr), professional training product (PTPr), and evaluation responsibilities product (ERPr) dimensions) of B.Ed. programme on teacher educators.

11. The state government universities and private universities have statementwise significant differences on the impact of B.Ed. programme on teacher educators with respect to even statements i.e., development of inclusive competencies to deal with diverse students (MV_4), increases employment opportunities (PO_4), use of rubrics for evaluation (EI_1), discussed detailed evaluation criteria (EP_1), organized practice sessions for the preparation of Teacher Eligibility Test (PP_5); organized community projects in collaboration with NGOs (TP_3) and consulted more library resources to prepare instructional inputs ($RCPr_3$).

4.2.3 IMPACT OF B.ED. PROGRAMME ON PRINCIPALS OF COLLEGES OF EDUCATION WITH RESPECT TO (i) STATE, (ii) UNIVERSITY, AND (iii) TYPE OF INSTITUTION

The evaluation scale of impact of B.Ed. programme (ESIBP-PCE) was filled by Principals of Colleges of Education (N = 24) of government colleges of education (N = 07), grant-in-aid colleges of education (N = 07) and self-financed colleges of education (N = 10) affiliated to state government universities (N = 21) and private universities (N = 03) of Punjab (N = 11), Himachal Pradesh (N = 03) and Haryana (N = 10).

A Two-way (3 x 3) ANOVA was applied for computing and comparing the significance of differences in means to study the main and interaction effects of state at 3 levels (Punjab, Himachal Pradesh, and Haryana) and type of institution at 3 levels (government colleges of education, grant-in-aid colleges of education and self-financed colleges of education) on the impact of B.Ed. programme on principals of colleges of education when data was analyzed as a (i) total scores, (ii) factorwise scores, and (iii) dimensionwise scores respectively.

4.2.3.1 Effect of State and Type of Institution on the Impact of B.Ed. Programme on Principals of Colleges of Education (Total Scores)

To study the effect of two independent variables i.e., state and type of institution on a single dependent variable i.e., the impact of B.Ed. programme (IBP) on principals of colleges of education, a two-way ANOVA i.e., 3 (levels of state) and 3 (levels of institution) was applied on the data obtained in terms of rating scores of principals of colleges of education on ESIBP (total scores) after the computation of means and standard deviations for each level. The term state, here, refers to three states i.e., the state of Punjab (PB), Himachal Pradesh (HP), and Haryana (HR), and the term type of institution (TOI), here, refers to three types of institutions i.e., the government colleges of education (GCE), grant-in-aid colleges of education (GIACE) and self-financed (SFCE) colleges of education (table 4.281).

The significance of differences between means of impact of B.Ed. programme (in case of principals of colleges of education with respect to state and type of institution) have been computed, compared, and tested against the following null hypotheses:

H_o: There is no significant main effect of state on the impact of B.Ed. programme on principals of colleges of education.

H_o: There is no significant main effect of type of institution on the impact of B.Ed. programme on principals of colleges of education.

H_o: There is no significant interaction effect of state and type of institution on the impact of B.Ed. programme on principals of colleges of education.

Table 4.281

Descriptive Statistics and Summary of Two-Way (3 x 3) ANOVA on the Impact of B.Ed. Programme (Total Scores) on Principals of Colleges of Education with respect to State and Type of Institution

Descriptive Statistics				
Category	**Type**	**N**	**Mean**	**SD**
State	HP	3	166.00	15.40
	HR	10	165.80	16.85
	PB	11	154.91	16.03
TOI	GIACE	7	166.14	15.68
	GCE	7	153.00	14.05
	SFCE	10	162.60	18.24
Summary of Two-Way (3 x 3) ANOVA				
SOV	**df**	**SS**	**MS**	**F-ratio**
State	2	534.54	267.27	1.03
TOI	2	783.46	391.73	1.51
State x TOI	4	1009.84	252.46	.97
Error	15	3898.62	259.91	
Total	24	627128.00		

$^{**}\alpha = .01 \ and \ ^{*}\alpha = .05$

4.2.3.1.1   Main and Interaction Effect of State and Type of Institution on the Impact of B.Ed. Programme on Principals of Colleges of Education

Main Effect of State on the Impact of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of state on the impact of B.Ed. programme on principals of colleges of education of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{State\ (2,\ 1427)} = 1.03$ is not significant at $\alpha = .05$ (table 4.281). Thus, H_o stands accepted for the effect of state on the impact of B.Ed. programme on principals of colleges of education.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant differences on the impact of B.Ed. programme on principals of colleges of education. In other words, Principals of these three states agreed together w. r. t. the impact of B.Ed. programme run in their colleges of education on them.

Main Effect of Type of Institution on the Impact of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of type of institution on the impact of B.Ed. programme on Principals of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{TOI\ (2,\ 1427)} = 1.51$ is not significant at $\alpha = .05$ (table 4.281). Thus, H_o stands accepted for the effect of type of institution on the impact of B.Ed. programme on principals of colleges of education.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant differences on the impact of B.Ed. programme on the Principals.

Interaction Effect of State and Type of Institution on the Impact of B.Ed. Programme on Principals of Colleges of Education

In table 4.281, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of B.Ed. programme on principals of colleges of education is found to be non-significant, as the values of $F_{State\ x\ TOI\ (4,\ 1427)} = .97$ is not significant at $\alpha = .05$. Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of B.Ed. programme on principals of colleges of education.

Hence, state and type of institution have no significant interaction effect on the impact of B.Ed. programme on principals of colleges of education.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of B.Ed. programme on principals of colleges of education (total scores).

4.2.3.1.2   Effect of Type of Self-Financed Institution on the Impact of B.Ed. Programme on Principals of Colleges of Education (Total Scores)

t-test (independent samples) was applied to study the effect of a single independent variable i.e., type of self-financed institution on a single dependent variable i.e., the impact of B.Ed. programme (IBP) on principals of colleges of education on the data obtained in terms of rating scores of principals of colleges of education on ESIBP (total scores) after the computation of means and standard deviations. The term type of self-financed institution, here, refers to two types of self-financed institutions i.e., self-financed institutions affiliated to state government universities (SFISGU) and self-financed institutions affiliated to private universities (SFIPU) (table 4.281A).

Table 4.281A

Means Matrices Showing Significance of Difference in Means regarding the Impact of B.Ed. Programme on Principals of Colleges of Education with respect to Type of Self-Financed Institution

Type of Self-Financed Institution ⟶			SFISGU	SFIPU
↓	**N**	**Mean** ⟶ **SD** ↓	160.43 21.15	167.67 10.02
SFISGU	7	160.43 21.15	-	.55
SFIPU	3	167.67 10.02		-

*$**\alpha = .01$ and *$\alpha = .05$*
SFISGU (Self-financed institutions affiliated with state government universities) and SFIPU (Self-financed institutions affiliated with private universities)

The significance of the difference between means of the impact of B.Ed. programme in case of teacher educator with respect to the type of self-financed institution has been computed, compared (table 4.236), and tested against the following null hypothesis:

H$_o$:   There is no significant difference in the impact of B.Ed. programme on principals of colleges of education with respect to the type of self-financed institution.

The comparison of means on the impact of B.Ed. programme on principals of colleges of education is between the self-financed institutions affiliated to state government universities $(M_{SFISGU}$ = 160.43) vs self-financed institutions affiliated to private universities (M_{SFIPUU} = 167.67), as the value of t $_{(8)}$ = .55 is not significant at α = .05 (table 4.281A). Thus, H$_o$ stands accepted for the principals of colleges of education of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of B.Ed. programme on principals of colleges of education.

4.2.3.2 Effect of University on the Impact of B.Ed. Programme on Principals of Colleges of Education (Total Scores)

t-test (independent samples) was applied to study the effect of a single independent variable i.e., university on a single dependent variable i.e., the impact of B.Ed. programme (IBP) on principals of colleges of education on the data obtained in terms of rating scores of principals of colleges of education on ESIBP (total scores) after the computation of means and standard deviations. The term university, here, refers to two universities i.e., state government universities (SGU) and private universities (PU) (table 4.282).

The significance of the difference between means of impact of B.Ed. programme in case of principals of colleges of education with respect to university have been computed, compared, and tested against the following null hypothesis:

H$_o$:   There is no significant difference in the impact of B.Ed. programme on principals of colleges of education with respect ot the university.

The comparisons of means on the impact of B.Ed. programme on principals of colleges of education is between the grant-in-aid (M_{SGU} = 159.86) vs self-financed universities (M_{PU} = 167.67), as the value of t $_{(22)}$ = .76 is not significant at α = .05 (table 4.282).

Table 4.282

Means Matrices Showing Significance of Difference in Means regarding Impact of B.Ed. Programme (Total Scores) on Principals of Colleges of Education with respect to University

University ———————————→			SGU	PU
↓	N	Mean ⌐→ SD ↓	159.86 17.25	167.67 10.02
SGU	21	159.86 17.25	-	.76
PU	3	167.67 10.02		-

$^{**}\alpha = .01\ and\ ^{*}\alpha = .05$

Therefore, the state government universities and private universities have no significant effect on the impact of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of B.Ed. programme on principals of colleges of education.

4.2.3.3 Effect of State and Type of Institution on the Factorwise Impact of B.Ed. Programme on Principals of Colleges of Education

To study the effect of two independent variables i.e., state and type of institution on a single dependent variable i.e., the factorwise impact of B.Ed. programme on principals of colleges of education, a two-way ANOVA i.e., 3 (levels of state) and 3 (levels of institution) was applied on the data obtained in terms of rating scores of principals of colleges of education on ESIBP (factorwise data) after the computation of means and standard deviations for each level. The term state, here, refers to three states i.e., the state of Punjab (PB), Himachal Pradesh (HP), and Haryana (HR), and the term type of institution (TOI), here, refers to three types of institutions i.e., the government colleges of education (GCE), grant-in-aid colleges of education (GIACE) and self-financed colleges of education (SFCE) colleges of education (table 4.283).

Table 4.283

Descriptive Statistics and Summary of Two-Way (3 x 3) ANOVA on the Factorwise Impact of B.Ed. Programme on Principals of Colleges of Education with respect to State and Type of Institution (TOI)

Factors	Category	Type of State	N	Mean	SD	SOV	df	SS	MS	F-ratio
Context	State	HP	3	27.00	2.00	State	2	67.03	33.51	**4.25***
		HR	10	26.30	3.49	TOI	2	29.62	14.81	1.88
		PB	11	23.00	2.86	State x TOI	4	32.98	8.23	1.05
	TOI	GCE	7	22.85	2.91	Error	15	118.20	7.88	
		GIACE	7	25.28	3.40	Total	23	272.63		
		SFCE	10	26.00	3.49					
Input	State	HP	3	46.33	8.73	State	2	90.04	45.02	1.33
		HR	10	50.00	6.73	TOI	2	136.12	68.06	2.02
		PB	11	45.36	4.69	State x TOI	4	191.98	48.00	1.42
	TOI	GCE	7	45.00	3.46	Error	15	506.53	33.77	
		GIACE	7	49.85	6.09	Total	23	897.83		
		SFCE	10	47.40	7.60					
Process	State	HP	3	52.00	8.88	State	2	21.26	10.63	.17
		HR	10	53.30	6.99	TOI	2	127.74	63.87	1.05
		PB	11	50.64	7.68	State x TOI	4	220.16	55.04	.90
	TOI	GCE	7	49.71	6.26	Error	15	916.62	61.11	
		GIACE	7	52.57	6.45	Total	23	1225.83		
		SFCE	10	53.00	8.76					
Product	State	HP	3	40.67	2.08	State	2	54.21	27.11	1.33
		HR	10	36.20	4.75	TOI	2	27.82	13.91	.68
		PB	11	35.91	3.96	State x TOI	4	30.78	7.69	.38
	TOI	GCE	7	35.42	5.65	Error	15	305.33	20.36	
		GIACE	7	38.42	2.69	Total	23	425.63		
		SFCE	10	36.20	4.15					

$^{**}\alpha = .01$ and $^{*}\alpha = .05$

The significance of differences between means of the impact of four evaluation factors i.e., Context, Input, Process, and Product of B.Ed. programme, in case of principals of colleges of education with respect to state and type of institution, have been computed, compared (table 4.283), and tested against the following null hypotheses:

H_o: There is no significant main effect of state on the factorwise impact of B.Ed. programme on principals of colleges of education.

H_o: There is no significant main effect of type of institution on the factorwise impact of B.Ed. programme on principals of colleges of education.

H_o: There is no significant interaction effect of state and type of institution on the factorwise impact of B.Ed. programme on principals of colleges of education.

4.2.3.3.1   Main and Interaction Effect of State and Type of Institution on the Impact of Context Factor of B.Ed. Programme on Principals of Colleges of Education

Main Effect of State on the Impact of Context Factor of B.Ed. Programme on Principals of Colleges of Education

There is a significant main effect of state on the impact of Context factor of B.Ed. programme on principals of colleges of education of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{Context - State (2, 15)} = 4.25$ is significant at $\alpha = .05$ (table 4.283). Thus, H_o stands not accepted for the effect of state on the impact of Context factor of B.Ed. programme on principals of colleges of education.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have a statistically significant effect on the impact of the Context factor of B.Ed. programme on principals of colleges of education. In other words, Principals of these three states do not agree together w. r. t. the impact of Context factor of B.Ed. programme run in their colleges of education on them.

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means and tested against the following null hypothesis:

H_o: There is no significant difference in the impact of Context factor of B.Ed. Programme on principals of colleges of education with respect to the state.

Table 4.284

Means Matrix Showing Significance of Difference in Means regarding the Impact of Context Factor of B.Ed. Programmeon Principals of Colleges of Education with respect to State

State			Punjab	Himachal Pradesh	Haryana
	N	Mean	23.00	27.00	26.30
		SD	2.86	2.00	3.50
Punjab	11	23.00 2.86	-	**2.78***	**2.35***
Himachal Pradesh	03	27.00 2.00		-	.44
Haryana	10	26.30 3.50			-

$^{**}\alpha = .01$ and $^{*}\alpha = .05$

Table 4.284 shows the significant mean differences on the impact of the Context factor of B.Ed. programme between the state of Punjab ($M_{PB} = 23.00$) vs Himachal Pradesh ($M_{HP} = 27.00$) favouring Himachal Pradesh, as the value of t $_{(12)} = 2.78$ is significant at $\alpha = .05$; the state of Punjab ($M_{PB} = 23.00$) vs Haryana ($M_{HR} = 26.30$) favouring Haryana, as the value of t $_{(19)} = 2.35$ is significant at $\alpha = .05$; and non-significant mean difference on the impact of Context factor of B.Ed. programme exist between the state of Haryana ($M_{HR} = 26.30$) vs Himachal Pradesh ($M_{HP} = 27.00$), as the value of t $_{(11)} = .44$ is not significant at $\alpha = .05$. Thus, H_o stands not accepted for the principals of colleges of education of the state of Punjab vs Himachal Pradesh and Punjab vs Haryana whereas H_o stands accepted for the principals of colleges of education of the state of Haryana vs Himachal.

Hence, the impact of the Context factor of B.Ed. programme is significantly more in Himachal Pradesh and Haryana states than that of Punjab whereas both Himachal

Pradesh and Haryana do not have significant difference on the impact of Context factor of B.Ed. programme on principals of colleges of education.

Main Effect of Type of Institution on the Impact of Context Factor of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of type of institution on the impact of Context factor of B.Ed. programme on Principals of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{\text{Context - TOI (2, 15)}} = 1.88$ is not significant at $\alpha = .05$ (table 4.283). Thus, H_o stands accepted for the effect of type of institution on the impact of Context factor of B.Ed. programme on principals of colleges of education.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant differences on the impact of the Context factor of B.Ed. programme on Principals.

Interaction Effect of State and Type of Institution on the Impact of Context Factor of B.Ed. Programme on Principals of Colleges of Education

In table 4.283, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of Context factor of B.Ed. programme on principals of colleges of education is found to be non-significant, as the value of $F_{\text{Context - State x TOI (4, 15)}} = 1.05$ is not significant at $\alpha = .05$. Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of Context factor of B.Ed. programme on principals of colleges of education.

Hence, state and type of institution have no significant interaction effect on the impact of Context factor of B.Ed. programme on principals of colleges of education.

Hence, the state and type of institution, independently, has significant and no significant effect respectively but both the state and type of institution together have no significant effect on the impact of Context factor of B.Ed. programme on principals of colleges of education.

4.2.3.3.2   **Main and Interaction Effect of State and Type of Institution on the Impact of Input Factor of B.Ed. Programme on Principals of Colleges of Education**

Main Effect of State on the Impact of Input Factor of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of state on the impact of Input factor of B.Ed. programme on principals of colleges of education of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{Input - State (2, 15)} = 1.33$ is not significant at $\alpha = .05$ (table 4.283). Thus, H_o stands accepted for the effect of state on the impact of Input factor of B.Ed. programme on principals of colleges of education.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant differences on the impact of the Input factor of B.Ed. programme on principals of colleges of education. In other words, Principals of these three states agreed together w. r. t. the impact of Input factor of B.Ed. programme run in their colleges of education on them.

Main Effect of Type of Institution on the Impact of Input Factor of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of type of institution on the impact of Input factor of B.Ed. programme on Principals of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{Input - TOI (2, 15)} = 2.02$ is not significant at $\alpha = .05$ (table 4.283). Thus, H_o stands accepted for the effect of type of institution on the impact of Input factor of B.Ed. programme on principals of colleges of education.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant differences on the impact of the Input factor of B.Ed. programme on Principals.

Interaction Effect of State and Type of Institution on the Impact of Input Factor of B.Ed. Programme on Principals of Colleges of Education

In table 4.283, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of Input factor of B.Ed.

programme on principals of colleges of education is found to be non-significant, as the value of $F_{\text{Input - State x TOI (4, 15)}} = 1.42$ is not significant at $\alpha = .05$. Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of Input factor of B.Ed. programme on principals of colleges of education.

Hence, state and type of institution have no significant interaction effect on the impact of Input factor of B.Ed. programme on principals of colleges of education.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of the Input factor of B.Ed. programme on principals of colleges of education.

4.2.3.3.3   Main and Interaction Effect of State and Type of Institution on the Impact of Process Factor of B.Ed. Programme on Principals of Colleges of Education

Main Effect of State on the Impact of Process Factor of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of state on the impact of Process factor of B.Ed. programme on principals of colleges of education of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{\text{Process - State (2, 15)}} = .17$ is not significant at $\alpha = .05$ (table 4.283). Thus, H_o stands accepted for the effect of state on the impact of Process factor of B.Ed. programme on principals of colleges of education.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant differences on the impact of the Process factor of B.Ed. programme on principals of colleges of education. In other words, Principals of these three states agreed together w. r. t. the impact of Process factor of B.Ed. programme run in their colleges of education on them.

Main Effect of Type of Institution on the Impact of Process Factor of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of type of institution on the impact of Process factor of B.Ed. programme on Principals of the government, grant-in-aid, and self-financed college of education, as the value of $F_{\text{Process - TOI (2, 15)}} = 1.05$ is not significant at

$\alpha = .05$ (table 4.283). Thus, H_o stands accepted for the effect of type of institution on the impact of Process factor of B.Ed. programme on principals of colleges of education.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant differences on the impact of the Process factor of B.Ed. programme on Principals.

Interaction Effect of State and Type of Institution on the Impact of Process Factor of B.Ed. Programme on Principals of Colleges of Education

In table 4.283, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of Process factor of B.Ed. programme on principals of colleges of education is found to be non-significant, as the values of $F_{\text{Process - State x TOI (4, 15)}} = .90$ is not significant at $\alpha = .05$. Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of Process factor of B.Ed. programme on principals of colleges of education.

Hence, state and type of institution have no significant interaction effect on the impact of Process factor of B.Ed. programme on principals of colleges of education.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of the Process factor of B.Ed. programme on principals of colleges of education.

4.2.3.3.4 Main and Interaction Effect of State and Type of Institution on the Impact of Product Factor of B.Ed. Programme on Principals of Colleges of Education

Main Effect of State on the Impact of Product Factor of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of state on the impact of Product factor of B.Ed. programme on principals of colleges of education of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{\text{Product - State (2, 15)}} = 1.33$ is not significant at $\alpha = .05$ (table 4.283). Thus, H_o stands accepted for the effect of state on the impact of Product factor of B.Ed. programme on principals of colleges of education.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant differences on the impact of the Product factor of B.Ed. programme on principals of colleges of education. In other words, Principals of these three states agreed together w. r. t. the impact of Product factor of B.Ed. programme run in their colleges of education on them.

Main Effect of Type of Institution on the Impact of Product Factor of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of type of institution on the impact of Product factor of B.Ed. programme on Principals of the government, grant-in-aid, and self-financed college of education, as the value of $F_{Product - TOI (2, 15)} = .68$ is not significant at $\alpha = .05$ (table 4.283). Thus, H_o stands accepted for the effect of type of institution on the impact of Product factor of B.Ed. programme on principals of colleges of education.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant differences on the impact of the Product factor of B.Ed. programme on Principals.

Interaction Effect of State and Type of Institution on the Impact of Product Factor of B.Ed. Programme on Principals of Colleges of Education

In table 4.283, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of Product factor of B.Ed. programme on principals of colleges of education is found to be non-significant, as the values of $F_{Product - State \times TOI (4, 15)} = .38$ is not significant at $\alpha = .05$. Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of Product factor of B.Ed. programme on principals of colleges of education.

Hence, state and type of institution have no significant interaction effect on the impact of Product factor of B.Ed. programme on principals of colleges of education.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of the Product factor of B.Ed. programme on principals of colleges of education.

4.2.3.3.5   Effect of Type of Self-Financed Institution on the Factorwise Impact of B.Ed. Programme on Principals of Colleges of Education

t-test (independent samples) was applied to study the effect of a single independent variable i.e., type of self-financed institution on a single dependent variable i.e., the factorwise impact of B.Ed. programme (IBP) on principals of colleges of education on the data obtained in terms of rating scores of principals of colleges of education on ESIBP (factorwise data) after the computation of means and standard deviations. The term type of self-financed institution, here, refers to two types of self-financed institutions i.e., self-financed institutions affiliated to state government universities (SFISGU) and self-financed institutions affiliated to private universities (SFIPU) (table 4.284A).

The significance of the difference between means of the impact of four factors, i.e., Context, Input, Process, and Product factors, of B.Ed. programme in case of principals of colleges of education with respect to the type of self-financed institution have been computed, compared, and tested against the following null hypothesis:

H_o: There is no significant difference in the factorwise impact of B.Ed. programme on principals of colleges of education with respect to the type of self-financed institution.

4.2.3.3.5.1   Effect of Type of Self-Financed Institution on the Impact of Context Factor of B.Ed. Programme on Principals of Colleges of Education

The comparison of means on the impact of Context factor of B.Ed. programme on principals of colleges of education is between the self-financed institutions affiliated to state government universities ($M_{SFISGU} = 26.00$) vs self-financed institutions affiliated to private universities ($M_{SFIPU} = 26.00$), as the value of t $_{(8)} = .00$ is not significant at $\alpha = .05$ (table 4.284A).

Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant effect on the impact of the Context factor of B.Ed. programme on principals of colleges of education.

Thus, H$_o$ stands accepted for the principals of colleges of education of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Table 4.284A

Means Matrices Showing Significance of Difference in Means regarding the Factorwise Impact of B.Ed. Programme on Principals of Colleges of Education with respect to Type of Self-Financed Institution

Sr. No.	Factors of B.Ed. Programme	University			SFISGU	SFIPU
			N	Mean SD	26.00 4.28	26.00 .00
1.	Context	SFISGU	7	26.00 4.28	-	.00
		SFIPU	3	26.00 .00	-	-
2.	Input			Mean SD	46.86 8.86	48.67 4.62
		SFISGU	7	46.86 8.86	-	.33
		SFIPU	3	48.67 4.62	-	-
3.	Process			Mean SD		
		SFISGU	7	52.86 10.32	-	.07
		SFIPU	3	53.33 5.13		-
4.	Product			Mean SD		
		SFISGU	7	34.71 2.29	-	1.99
		SFIPU	3	39.67 6.03		-

$^{**}\alpha = .01$ and $^{*}\alpha = .05$

Hence, the type of self-financed institution has no significant effect on the impact of the Context factor of B.Ed. programme on principals of colleges of education.

4.2.3.3.5.2 Effect of Type of Self-Financed Institution on the Impact of Input Factor of B.Ed. Programme on Principals of colleges of education

The comparison of means on the impact of Input factor of B.Ed. programme on principals of colleges of education is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 46.86) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 48.67), as the value of t $_{(8)}$ = .33 is not significant at α = .05 (table 4.284A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant effect on the impact of the Input factor of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of the Input factor of B.Ed. programme on principals of colleges of education.

4.2.3.3.5.3 Effect of Type of Self-Financed Institution on the Impact of Process Factor of B.Ed. Programme on Principals of colleges of education

The comparison of means on the impact of Process factor of B.Ed. programme on principals of colleges of education is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 52.86) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 53.33), as the value of t $_{(8)}$ = .07 is not significant at α = .05 (table 4.284A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant effect on the impact of the Process factor of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of the Process factor of B.Ed. programme on principals of colleges of education.

4.2.3.3.5.4   Effect of Type of Self-Financed Institution on the Impact of Product Factor of B.Ed. Programme on Principals of colleges of education

The comparison of means on the impact of Product factor of B.Ed. programme on principals of colleges of education is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 34.71) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 39.67), as the value of t $_{(8)}$ = 1.99 is not significant at α = .05 (table 4.284A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant effect on the impact of the Product factor of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of the Product factor of B.Ed. programme on principals of colleges of education.

4.2.3.4 Effect of University on the Factorwise Impact of B.Ed. Programme on Principals of Colleges of Education

t-test (independent samples) was applied to study the effect of a single independent variable i.e., university on a single dependent variable i.e., the factorwise impact of B.Ed. programme (IBP) on principals of colleges of education on the data obtained in terms of rating scores of on principals of colleges of education on ESIBP (factorwise data) after the computation of means and standard deviations. The term university here refers to two universities i.e., state government universities (SGU) and private universities (PU) (table 4.285).

The significance of the difference between means of the impact of four factors, i.e., Context, Input, Process, and Product factors, of B.Ed. programme in case of on principals of colleges of education with respect to university have been computed, compared, and tested against the following null hypothesis:

H_o: There is no significant difference in the factorwise impact of B.Ed. programme on principals of colleges of education with respect to the university.

Table 4.285

Means Matrices Showing Significance of Difference in Means regarding the Factorwise Impact of B.Ed. Programme on Principals of Colleges of Education with respect to University

Sr. No.	Factors of B.Ed. Programme	University			SGU	PU
			N	Mean SD	24.71 3.66	26.00 .00
1.	Context	SGU	21	24.71 3.66	-	1.61
		PU	03	26.00 .00		-
2.	Input			Mean SD	47.24 6.52	48.67 4.62
		SGU	21	47.24 6.52	-	.36
		PU	03	48.67 4.62		-
3.	Process			Mean SD	51.71 7.64	53.33 5.13
		SGU	21	51.71 7.64	-	.35
		PU	03	53.33 5.13		-
4.	Product			Mean SD	36.19 4.01	39.67 6.03
		SGU	21	36.19 4.01	-	1.33
		PU	03	39.67 6.03		-

$^{**}\alpha = .01$ *and* $^{*}\alpha = .05$

4.2.3.4.1   Effect of University on the Impact of Context Factor of B.Ed. Programme on Principals of Colleges of Education

The comparisons of means on the impact of Context factor of B.Ed. programme on principals of colleges of education is between the grant-in-aid (M_{SGU} = 24.71) vs self-financed universities (M_{PU} = 26.00), as the value of t $_{(22)}$ = 1.61 is not significant at α =

.05 (table 4.285). Therefore, the state government universities and private universities have no significant effect on the impact of the Context factor of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of the Context factor of B.Ed. programme on principals of colleges of education.

4.2.3.4.2   Effect of University on the Impact of Input Factor of B.Ed. Programme on Principals of Colleges of Education

The comparisons of means on the impact of Input factor of B.Ed. programme on principals of colleges of education is between the grant-in-aid (M_{SGU} = 47.24) vs self-financed universities (M_{PU} = 48.67), as the value of t $_{(22)}$ = .36 is not significant at α = .05 (table 4.285). Therefore, the state government universities and private universities have no significant effect on the impact of the Input factor of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of the Input factor of B.Ed. programme on principals of colleges of education.

4.2.3.4.3   Effect of University on the Impact of Process Factor of B.Ed. Programme on Principals of Colleges of Education

The comparisons of means on the impact of Process factor of B.Ed. programme on principals of colleges of education is between the grant-in-aid (M_{SGU} = 51.71) vs self-financed universities (M_{PU} = 53.33), as the value of t $_{(22)}$ = .35 is not significant at α = .05 (table 4.285). Therefore, the state government universities and private universities have no significant effect on the impact of the Process factor of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of the Process factor of B.Ed. programme on principals of colleges of education.

4.2.3.4.4 Effect of University on the Impact of Product Factor of B.Ed. Programme on Principals of Colleges of Education

The comparisons of means on the impact of Product factor of B.Ed. programme on principals of colleges of education is between the grant-in-aid (M_{SGU} = 36.19) vs self-financed universities (M_{PU} = 39.67), as the value of t $_{(22)}$ = 1.33 is not significant at α = .05 (table 4.285). Therefore, the state government universities and private universities have no significant effect on the impact of the Product factor of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of the Product factor of B.Ed. programme on principals of colleges of education.

4.2.3.5 Effect of State and Type of Institution on the Dimensionwise Impact of B.Ed. Programme on Principals of Colleges of Education

To study the effect of two independent variables i.e., state and type of institution on a single dependent variable i.e., the dimensionwise impact of B.Ed. programme (IBP) on principals of colleges of education, a two-way ANOVA i.e., 3 (levels of state) and 3 (levels of institution) was applied on the data obtained in terms of rating scores of principals of colleges of education on ESIBP (dimensionwise data) after the computation of means and standard deviations for each level. The term state, here, refers to three states i.e., the state of Punjab (PB), Himachal Pradesh (HP), and Haryana (HR), and the term type of institution (TOI), here, refers to three types of institutions i.e., the government colleges of education (GCE), grant-in-aid colleges of education (GIACE) and self-financed colleges of education (SFCE) (table 4.286).

The significance of differences between means of the impact of twelve dimensions, i.e., Mission & Vision (MV); Programme Objectives (PO); Academic & Evaluation Inputs (AEI); Resource Inputs (RI); Training Inputs (TI); Professional Inputs (PI); Administrative & Academic Process (AAP); Professional Process (PP); Training & Evaluation Process (TEP); Administrative Product (APr); Managerial Product (MPr); and

Table 4.286

Descriptive Statistics and Summary of Two-Way (3 x 3) ANOVA on the Dimensionwise Impact of B.Ed. Programme on Principals of Colleges of Education with respect to the State and Type of Institution (TOI)

Dimensions	Category	Group	N	Mean	SD	SOV	df	SS	MS	F-ratio
Mission & Vision (MV)	State	HP	3	13.67	1.53	State	2	.62	.31	1.59
		HR	10	13.20	2.10	TOI	2	.54	.27	1.38
		PB	11	12.00	1.73	State x TOI	4	.81	.20	1.03
	TOI	GCE	7	13.00	2.08	Error	15	2.93	.20	
		GIACE	7	11.57	1.62	Total	23			
		SFCE	10	13.30	1.83					
Programme Objectives (PO)	State	HP	3	13.33	.58	State	2	1.60	.80	**6.98****
		HR	10	13.10	1.60	TOI	2	.40	.20	1.73
		PB	11	11.00	1.41	State x TOI	4	.36	.09	.78
	TOI	GCE	7	12.29	1.70	Error	15	1.72	.12	
		GIACE	7	11.29	1.60	Total	23			
		SFCE	10	12.70	1.83					
Academic & Evaluation Inputs (AEI)	State	HP	3	15.67	1.53	State	2	.51	.26	2.03
		HR	10	16.40	2.32	TOI	2	.83	.42	3.28
		PB	11	14.64	1.63	State x TOI	4	.27	.07	.53
	TOI	GCE	7	16.57	1.71	Error	15	1.90	.13	
		GIACE	7	14.00	.82	Total	23			
		SFCE	10	15.80	2.34					
Resource Inputs (RI)	State	HP	3	9.00	3.00	State	2	.86	.43	2.17
		HR	10	10.20	1.32	TOI	2	1.33	.67	3.36
		PB	11	9.00	1.34	State x TOI	4	2.10	.53	2.64
	TOI	GCE	7	10.14	1.35	Error	15	2.98	.20	
		GIACE	7	8.86	.90	Total	23			
		SFCE	10	9.50	2.07					

**$\alpha = .01$ *and* *$\alpha = .05$

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Table 4.286

Descriptive Statistics and Summary of Two-Way (3 x 3) ANOVA on the Dimensionwise Impact of B.Ed. Programme on Principals of Colleges of Education with respect to the State and Type of Institution (TOI)

Dimensions	Category	Group	N	Mean	SD	SOV	df	SS	MS	F-ratio
Training Inputs (TI)	State	HP	3	12.00	3.00	State	2	.50	.25	1.32
		HR	10	13.60	1.71	TOI	2	1.00	.50	2.62
		PB	11	12.36	1.86	State x TOI	4	1.66	.42	2.17
	TOI	GCE	7	13.57	1.51	Error	15	2.87	.19	
		GIACE	7	12.86	1.68	Total	23			
		SFCE	10	12.30	2.41					
Professional Inputs (PI)	State	HP	3	9.67	2.08	State	2	.07	.04	.10
		HR	10	9.80	2.10	TOI	2	.27	.14	.37
		PB	11	9.36	1.29	State x TOI	4	1.51	.38	1.02
	TOI	GCE	7	9.57	2.37	Error	15	5.55	.37	
		GIACE	7	9.29	.95	Total	23			
		SFCE	10	9.80	1.69					
Administrative & Academic Process (AAP)	State	HP	3	14.00	2.65	State	2	.58	.29	.78
		HR	10	13.70	1.83	TOI	2	.63	.31	.84
		PB	11	12.36	2.54	State x TOI	4	.98	.24	.65
	TOI	GCE	7	13.71	1.60	Error	15	5.59	.37	
		GIACE	7	12.71	1.60	Total	23			
		SFCE	10	13.00	3.09					
Professional Process (PP)	State	HP	3	12.33	2.08	State	2	.03	.01	.06
		HR	10	12.70	2.31	TOI	2	.51	.25	1.13
		PB	11	12.64	1.36	State x TOI	4	1.11	.28	1.24
	TOI	GCE	7	12.71	2.43	Error	15	3.34	.22	
		GIACE	7	12.00	1.53	Total	23			
		SFCE	10	13.00	1.56					

[**]$\alpha = .01$ *and* [*]$\alpha = .05$

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Table 4.286
Descriptive Statistics and Summary of Two-Way (3 x 3) ANOVA on the Dimensionwise Impact of B.Ed. Programme on Principals of Colleges of Education with respect to the State and Type of Institution (TOI)

Dimensions	Category	Group	N	Mean	SD	SOV	df	SS	MS	F-ratio
Training & Evaluation Process (TEP)	State	HP	3	25.67	4.16	State	2	.10	.05	.18
		HR	10	26.90	3.35	TOI	2	.47	.24	.89
		PB	11	25.64	4.37	State x TOI	4	.81	.20	.76
	TOI	GCE	7	26.14	3.08	Error	15	4.01	.27	
		GIACE	7	25.00	3.46	Total	23			
		SFCE	10	27.00	4.60					
Administrative Product (APr)	State	HP	3	14.67	2.31	State	2	.00	.00	.00
		HR	10	14.70	2.00	TOI	2	.53	.27	1.25
		PB	11	14.46	2.54	State x TOI	4	.95	.24	1.13
	TOI	GCE	7	15.29	1.11	Error	15	3.17	.21	
		GIACE	7	14.86	2.80	Total	23			
		SFCE	10	13.90	2.33					
Managerial Product (MPr)	State	HP	3	11.00	1.00	State	2	1.12	.56	3.60
		HR	10	9.00	1.49	TOI	2	.49	.24	1.57
		PB	11	9.18	.75	State x TOI	4	.25	.06	.41
	TOI	GCE	7	9.71	1.11	Error	15	2.33	.16	
		GIACE	7	8.71	1.38	Total	23			
		SFCE	10	9.50	1.27					
Training Product (TPr)	State	HP	3	15.00	1.00	State	2	1.15	.58	1.53
		HR	10	12.50	1.96	TOI	2	.43	.22	.58
		PB	11	12.27	2.53	State x TOI	4	.09	.02	.06
	TOI	GCE	7	13.43	1.81	Error	15	5.64	.38	
		GIACE	7	11.86	2.04	Total	23			
		SFCE	10	12.80	2.70					

$^{**}\alpha = .01$ *and* $^{*}\alpha = .05$

Training Product (TPr) of four factors i.e., Context, Input, Process, and Product factor, of B.Ed. programme, in case of principals of colleges of education with respect to state and type of institution, have been computed, compared, and tested against the following null hypotheses:

H_o: There is no significant main effect of state on the dimensionwise impact of B.Ed. programme on principals of colleges of education.

H_o: There is no significant main effect of type of institution on the dimensionwise impact of B.Ed. programme on principals of colleges of education.

H_o: There is no significant interaction effect of state and type of institution on the dimensionwise impact of B.Ed. programme on principals of colleges of education.

4.2.3.5.1 Main and Interaction Effect of State and Type of Institution on the Impact of Mission & Vision Dimensionof B.Ed. Programme on Principals of Colleges of Education

Main Effect of State on the Impact of Mission & Vision Dimensionof B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of state on the impact of mission & vision (MV) dimension of B.Ed. programme on principals of colleges of education of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{MV - State (2, 15)} = 1.59$ is not significant at $\alpha = .05$ (table 4.286). Thus, H_o stands accepted for the effect of state on the impact of mission & vision dimension of B.Ed. programme on principals of colleges of education.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant differences on the impact of mission & vision dimension of B.Ed. programme on principals of colleges of education. In other words, Principals of these three states agreed together w. r. t. the impact of mission & vision dimension of B.Ed. programme run in their colleges of education on them.

Main Effect of Type of Institution on the Impact of MV Dimensionof B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of type of institution on the impact of mission & vision (MV) dimension of B.Ed. programme on Principals of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{MV - TOI (2, 15)} = 1.38$ is not significant at $\alpha = .05$ (table 4.286). Thus, H_o stands accepted for the effect of type of institution on the impact of mission & vision dimension of B.Ed. programme on principals of colleges of education.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant differences on the impact of mission & vision dimension of B.Ed. programme on Principals.

Interaction Effect of State and Type of Institution on the Impact of Mission & Vision Dimensionof B.Ed. Programme on Principals of Colleges of Education

In table 4.286, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of mission & vision (MV) dimension of B.Ed. programme on principals of colleges of education is found to be non-significant, as the value of $F_{MV - State \times TOI (4, 15)} = 1.03$ is not significant at $\alpha = .05$. Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of mission & vision dimension of B.Ed. programme on principals of colleges of education.

Hence, state and type of institution have no significant interaction effect on the impact of mission & vision dimension of B.Ed. programme on principals of colleges of education.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of mission & vision dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.2   Main and Interaction Effect of State and Type of Institution on the Impact of Programme Objectives Dimensionof B.Ed. Programme on Principals of Colleges of Education

Main Effect of State on the Impact of Programme Objectives Dimensionof B.Ed. Programme on Principals of Colleges of Education

There is a significant main effect of state on the impact of programme objectives (PO) dimension of B.Ed. programme on principals of colleges of education of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{PO - State\ (2,\ 15)} = 6.98$ is significant at $\alpha = .01$ (table 4.286). Thus, H_o stands not accepted for the effect of state on the impact of programme objectives dimension of B.Ed. programme on principals of colleges of education.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have a significant effect on the impact of programme objectives dimension of B.Ed. programme on principals of colleges of education. In other words, Principals of these three states do not agree together w. r. t. the impact of programme objectives dimension of B.Ed. programme run in their colleges of education on them.

Table 4.287
Means Matrix Showing Significance of Difference in Means regarding the Impact of Programme Objectives Dimension of B.Ed. Programme on Principals of Colleges of Education with respect to State

State			Punjab	Himachal Pradesh	Haryana
	N	**Mean** **SD**	11.00 1.41	13.33 .58	13.10 1.60
Punjab	11	11.00 1.41	-	**4.31****	**3.18****
Himachal Pradesh	03	13.33 .58		-	.38
Haryana	10	13.10 1.60			-

**$\alpha = .01$ *and* *$\alpha = .05$

The post-hoc analysis using Tukey's HSD test was applied for calculating and comparing the significance of differences between means (table 4.287) and tested against the following null hypothesis:

H$_o$: There is no significant difference in the impact of programme objectives dimension of B.Ed. programme on principals of colleges of education with respect to state.

Table 4.287 shows the significant mean differences on the impact of programme objectives dimension of B.Ed. programme between the state of Punjab (M$_{PB}$ = 11.00) vs Himachal Pradesh (M$_{HP}$ = 13.33) favouring Himachal Pradesh, as the value of t $_{(12)}$ = 4.31 is significant at α = .01; the state of Punjab (M$_{PB}$ = 11.00) vs Haryana (M$_{HR}$ = 13.10) favouring Haryana, as the value of t $_{(19)}$ = 3.18 is significant at α = .01; and non-significant mean difference on the impact of PO dimension of B.Ed. programme exist between the state of Haryana (M$_{HR}$ = 13.10) vs Himachal Pradesh (M$_{HP}$ = 13.33), as the value of t $_{(11)}$ = .38 is not significant at α = .05. Thus, H$_o$ stands not accepted for the principals of colleges of education of the state of Punjab vs Himachal Pradesh and Punjab vs Haryana whereas H$_o$ stands accepted for the principals of colleges of education of the state of Haryana vs Himachal.

Hence, the impact of programme objectives dimension of B.Ed. programme is significantly more in Himachal Pradesh and Haryana states than that of Punjab whereas both Himachal Pradesh and Haryana do not have significant difference on the impact of programme objectives dimension of B.Ed. programme on principals of colleges of education.

Main Effect of Type of Institution on the Impact of Programme Objectives Dimensionof B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of type of institution on the impact of programme objectives (PO) dimension of B.Ed. programme on Principals of the government, grant-in-aid, and self-financed colleges of education, as the value of F $_{MV - TOI (2, 15)}$ = 1.73 is not significant at α = .05 (table 4.286). Thus, H$_o$ stands accepted for the effect of type of institution on the impact of programme objectives dimension of B.Ed. programme on principals of colleges of education.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant differences on the impact of programme objectives dimension of B.Ed. programme on Principals.

Interaction Effect of State and Type of Institution on the Impact of Programme Objectives Dimensionof B.Ed. Programme on Principals of Colleges of Education

In table 4.286, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of programme objectives (PO) dimension of B.Ed. programme on principals of colleges of education is found to be non-significant, as the value of $F_{\text{PO - State x TOI (4, 15)}} = .78$ is not significant at $\alpha = .05$. Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of programme objectives dimension of B.Ed. programme on principals of colleges of education.

Hence, state and type of institution have no significant interaction effect on the impact of programme objectives dimension of B.Ed. programme on principals of colleges of education.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of programme objectives dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.3 Main and Interaction Effect of State and Type of Institution on the Impact of Academic & Evaluation Input Dimension of B.Ed. Programme on Principals of Colleges of Education

Main Effect of State on the Impact of Academic & Evaluation Input Dimension of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of state on the impact of academic & evaluation input (AEI) dimension of B.Ed. programme on principals of colleges of education of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{\text{AEI - State (2, 15)}} = 2.03$ is not significant at $\alpha = .05$ (table 4.286). Thus, H_o stands accepted for the effect of state on the impact of academic & evaluation input dimension of B.Ed. programme on principals of colleges of education.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant differences on the impact of academic & evaluation input dimension of B.Ed. programme on principals of colleges of education. In other words, Principals of these three states agreed together w. r. t. the impact of academic & evaluation input dimension of B.Ed. programme run in their colleges of education on them.

Main Effect of Type of Institution on the Impact of Academic & Evaluation Input Dimension of B.Ed. programme on Principals of Colleges of Education

There is a non-significant main effect of type of institution on the impact of academic & evaluation input (AEI) dimension of B.Ed. programme on Principals of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{AEI - TOI (2, 15)} = 3.28$ is not significant at $\alpha = .05$ (table 4.286). Thus, H_o stands accepted for the effect of type of institution on the impact of AEI dimension of B.Ed. programme on principals of colleges of education.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant differences on the impact of academic & evaluation input dimension of B.Ed. programme on Principals.

Interaction Effect of State and Type of Institution on the Impact of Academic & Evaluation Input Dimension of B.Ed. programme on Principals of Colleges of Education

In table 4.286, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of academic & evaluation input (AEI) dimension of B.Ed. programme on principals of colleges of education is found to be non-significant, as the value of $F_{AEI - State \times TOI (4, 15)} = .53$ is not significant at $\alpha = .05$. Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of academic & evaluation input dimension of B.Ed. programme on principals of colleges of education.

Hence, state and type of institution have no significant interaction effect on the impact of academic & evaluation input dimension of B.Ed. programme on principals of colleges of education.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of academic & evaluation input dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.4 Main and Interaction Effect of State and Type of Institution on the Impact of Resource Input Dimension of B.Ed. Programme on Principals of Colleges of Education

Main Effect of State on the Impact of Resource Input Dimension of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of state on the impact of resource input (RI) dimension of B.Ed. programme on principals of colleges of education of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{\text{RI - State (2, 15)}}$ = 2.18 is not significant at α = .05 (table 4.286). Thus, H_o stands accepted for the effect of state on the impact of resource input dimension of B.Ed. programme on principals of colleges of education.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant differences on the impact of resource input dimension of B.Ed. programme on principals of colleges of education. In other words, Principals of these three states agreed together w. r. t. the impact of resource input dimension of B.Ed. programme run in their colleges of education on them.

Main Effect of Type of Institution on the Impact of Resource Input Dimension of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of type of institution on the impact of resource input (RI) dimension of B.Ed. Programme on Principals of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{\text{RI - TOI (2, 15)}}$ = 3.36 is not significant at α = .05 (table 4.286). Thus, H_o stands accepted for the effect of type of institution on the impact of resource input dimension of B.Ed. programme on principals of colleges of education.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant differences on the impact of resource input dimension of B.Ed. programme on Principals.

Interaction Effect of State and Type of Institution on the Impact of Resource Input Dimension of B.Ed. Programme on Principals of Colleges of Education

In table 4.286, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of resource input (RI) dimension of B.Ed. programme on principals of colleges of education is found to be non-significant, as the value of $F_{RI - State \times TOI (4, 15)} = 2.64$ is not significant at $\alpha = .05$. Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of resource input dimension of B.Ed. programme on principals of colleges of education.

Hence, state and type of institution have no significant interaction effect on the impact of RI dimension of B.Ed. programme on principals of colleges of education.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of resource input dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.5   **Main and Interaction Effect of State and Type of Institution on the Impact of Training Input Dimension of B.Ed. Programme on Principals of Colleges of Education**

Main Effect of State on the Impact of Training Input Dimension of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of state on the impact of training input (TI) dimension of B.Ed. programme on principals of colleges of education of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{RI - State (2, 15)} = 1.32$ is not significant at $\alpha = .05$ (table 4.286). Thus, H_o stands accepted for the effect of state on the impact of training input dimension of B.Ed. programme on principals of colleges of education.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant differences on the impact of training input dimension of B.Ed. programme on principals

of colleges of education. In other words, Principals of these three states agreed together w. r. t. the impact of training input dimension of B.Ed. programme run in their colleges of education on them.

Main Effect of Type of Institution on the Impact of Training Input Dimensionof B.Ed. programme on Principals of Colleges of Education

There is a non-significant main effect of type of institution on the impact of training input (TI) dimension of B.Ed. programme on Principals of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{RI - TOI (2, 15)} = 2.62$ is not significant at $\alpha = .05$ (table 4.286). Thus, H_o stands accepted for the effect of type of institution on the impact of training input dimension of B.Ed. programme on principals of colleges of education.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant differences on the impact of training input dimension of B.Ed. programme on Principals.

Interaction Effect of State and Type of Institution on the Impact of Training Input Dimension of B.Ed. Programme on Principals of Colleges of Education

In table 4.286, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of training input (TI) dimension of B.Ed. programme on principals of colleges of education is found to be non-significant, as the value of $F_{TI - State\ x\ TOI (4, 15)} = 2.17$ is not significant at $\alpha = .05$. Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of training input dimension of B.Ed. programme on principals of colleges of education.

Hence, state and type of institution have no significant interaction effect on the impact of training input dimension of B.Ed. programme on principals of colleges of education.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of training input dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.6   **Main and Interaction Effect of State and Type of Institution on the Impact of Professional Input Dimensionof B.Ed. Programme on Principals of Colleges of Education**

Main Effect of State on the Impact of Professional Input Dimension of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of state on the impact of professional input (PI) dimension of B.Ed. programme on principals of colleges of education of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{PI - State (2, 15)} = .10$ is not significant at $\alpha = .05$ (table 4.286). Thus, H_o stands accepted for the effect of state on the impact of professional input dimension of B.Ed. programme on principals of colleges of education.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant differences on the impact of the professional input dimension of B.Ed. programme on principals of colleges of education. In other words, Principals of these three states agreed together w. r. t. the impact of professional input dimension of B.Ed. programme run in their colleges of education on them.

Main Effect of Type of Institution on the Impact of Professional Input Dimension of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of type of institution on the impact of professional input (PI) dimension of B.Ed. programme on Principals of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{PI - TOI (2, 15)} = .37$ is not significant at $\alpha = .05$ (table 4.286). Thus, H_o stands accepted for the effect of type of institution on the impact of professional input dimension of B.Ed. programme on principals of colleges of education.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant differences on the impact of the professional input dimension of B.Ed. programme on Principals.

Interaction Effect of State and Type of Institution on the Impact of Professional Input Dimension of B.Ed. Programme on Principals of Colleges of Education

In table 4.286, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of professional input (PI) dimension of B.Ed. programme on principals of colleges of education is found to be non-significant, as the value of $F_{PI - State \, x \, TOI \, (4, \, 15)} = 1.03$ is not significant at $\alpha = .05$. Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of professional input dimension of B.Ed. programme on principals of colleges of education. Hence, state and type of institution have no significant interaction effect on the impact of professional input dimension of B.Ed. programme on principals of colleges of education.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of the professional input dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.7   Main and Interaction Effect of State and Type of Institution on the Impact of Administrative & Academic Process Dimension of B.Ed. Programme on Principals of Colleges of Education

Main Effect of State on the Impact of Administrative & Academic Process Dimension of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of state on the impact of administrative & academic process (AAP) dimension of B.Ed. programme on principals of colleges of education of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{AAP - State \, (2, \, 15)} = .78$ is not significant at $\alpha = .05$ (table 4.286). Thus, H_o stands accepted for the effect of state on the impact of administrative & academic process dimension of B.Ed. programme on principals of colleges of education.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant differences on the impact of administrative & academic process dimension of B.Ed. programme on principals of colleges of education. In other words, Principals of these three states agreed together w. r. t. the impact of administrative & academic process dimension of B.Ed. programme run in their colleges of education on them.

Main Effect of Type of Institution on the Impact of Administrative & Academic Process Dimension of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of type of institution on the impact of administrative & academic process (AAP) dimension of B.Ed. programme on Principals of the government, grant-in-aid, and self-financed colleges of education, as the value of F $_{AAP – TOI (2, 15)}$ = .84 is not significant at α = .05 (table 4.286). Thus, H$_o$ stands accepted for the effect of type of institution on the impact of administrative & academic process dimension of B.Ed. programme on principals of colleges of education.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant differences on the impact of administrative & academic process dimension of B.Ed. programme on Principals.

Interaction Effect of State and Type of Institution on the Impact of Administrative & Academic Process Dimension of B.Ed. programme on Principals of Colleges of Education

In table 4.286, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of administrative & academic process (AAP) dimension of B.Ed. programme on principals of colleges of education is found to be non-significant, as the values of F $_{AAP - State \times TOI (4, 15)}$ = .65 is not significant at α = .05. Thus, H$_o$ stands accepted for the interaction effect of state and type of institution on the impact of administrative & academic process dimension of B.Ed. programme on principals of colleges of education.

Hence, state and type of institution have no significant interaction effect on the impact of administrative & academic process dimension of B.Ed. programme on principals of colleges of education.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of administrative & academic process dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.8   **Main and Interaction Effect of State and Type of Institution on the Impact of Professional Process Dimension of B.Ed. Programme on Principals of Colleges of Education**

Main Effect of State on the Impact of Professional Process Dimension of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of state on the impact of professional process (PP) dimension of B.Ed. programme on principals of colleges of education of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{PP - State (2, 15)}$ = .06 is not significant at α = .05 (table 4.286). Thus, H_o stands accepted for the effect of state on the impact of professional process dimension of B.Ed. programme on principals of colleges of education.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant differences on the impact of the professional process dimension of B.Ed. programme on principals of colleges of education. In other words, Principals of these three states agreed together w. r. t. the impact of professional process dimension of B.Ed. programme run in their colleges of education on them.

Main Effect of Type of Institution on the Impact of Professional Process Dimension of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of type of institution on the impact of professional process (PP) dimension of B.Ed. programme on Principals of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{PP - TOI (2, 15)}$ = 1.13 is not significant at α = .05 (table 4.286). Thus, H_o stands accepted for the effect of type of institution on the impact of professional process (PP) dimension of B.Ed. programme on principals of colleges of education.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant differences on the impact of the professional process (PP) dimension of B.Ed. programme on Principals.

Interaction Effect of State and Type of Institution on the Impact of Professional Process Dimension of B.Ed. Programme on Principals of Colleges of Education

In table 4.286, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of professional process (PP) dimension of B.Ed. programme on principals of colleges of education is found to be non-significant, as the value of $F_{PP - State\ x\ TOI\ (4,\ 15)} = 1.24$ is not significant at $\alpha = .05$. Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of professional process dimension of B.Ed. programme on principals of colleges of education.

Hence, state and type of institution have no significant interaction effect on the impact of professional process dimension of B.Ed. programme on principals of colleges of education.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of the professional process dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.9   Main and Interaction Effect of State and Type of Institution on the Impact of Training & Evaluation Process Dimension of B.Ed. Programme on Principals of Colleges of Education

Main Effect of State on the Impact of Training & Evaluation Process Dimension of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of state on the impact of the training & evaluation process (TEP) dimension of B.Ed. programme on principals of colleges of education of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{TEP - State\ (2,\ 15)} = .18$ is not significant at $\alpha = .05$ (table 4.286). Thus, H_o stands accepted for the effect of state on the impact of training & evaluation process dimension of B.Ed. programme on principals of colleges of education.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant differences on the impact of the training & evaluation process dimension of B.Ed. programme on principals of colleges of education. In other words, Principals of these

three states agreed together w. r. t. the impact of training & evaluation process dimension of B.Ed. programme run in their colleges of education on them.

Main Effect of Type of Institution on the Impact of Training & Evaluation Process Dimension of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of type of institution on the impact of training & evaluation process (TEP) dimension of B.Ed. programme on Principals of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{TEP - TOI (2, 15)}$ = .88 is not significant at α = .05 (table 4.286). Thus, H_o stands accepted for the effect of type of institution on the impact of training & evaluation process dimension of B.Ed. programme on principals of colleges of education.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant differences on the impact of the training & evaluation process dimension of B.Ed. programme on Principals.

Interaction Effect of State and Type of Institution on the Impact of Training & Evaluation Process Dimension of B.Ed. Programme on Principals of Colleges of Education

In table 4.286, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of training & evaluation process (TEP) dimension of B.Ed. programme on principals of colleges of education is found to be non-significant, as the value of $F_{TEP - State \times TOI (4, 15)}$ = .76 is not significant at α = .05. Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of training & evaluation process dimension of B.Ed. programme on principals of colleges of education.

Hence, state and type of institution have no significant interaction effect on the impact of training & evaluation process dimension of B.Ed. programme on principals of colleges of education.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of training & evaluation process dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.10   **Main and Interaction Effect of State and Type of Institution on the Impact of Administrative Product Dimension of B.Ed. Programme on Principals of Colleges of Education**

Main Effect of State on the Impact of Administrative Product Dimension of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of state on the impact of administrative product (APr) dimension of B.Ed. programme on principals of colleges of education of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{APr - State\ (2,\ 15)} = .00$ is not significant at $\alpha = .05$ (table 4.286). Thus, H_o stands accepted for the effect of state on the impact of administrative product dimension of B.Ed. programme on principals of colleges of education.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant differences on the impact of the administrative product dimension of B.Ed. programme on principals of colleges of education. In other words, Principals of these three states agreed together w. r. t. the impact of administrative product dimension of B.Ed. programme run in their colleges of education on them.

Main Effect of Type of Institution on the Impact of Administrative Product Dimension of B.Ed. programme on Principals of Colleges of Education

There is a non-significant main effect of type of institution on the impact of administrative product (APr) dimension of B.Ed. programme on Principals of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{APr - TOI\ (2,\ 15)} = 1.25$ is not significant at $\alpha = .05$ (table 4.286). Thus, H_o stands accepted for the effect of type of institution on the impact of administrative product dimension of B.Ed. programme on principals of colleges of education.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant differences on the impact of the administrative product dimension of B.Ed. programme on Principals.

Interaction Effect of State and Type of Institution on the Impact of Administrative Product Dimension of B.Ed. Programme on Principals of Colleges of Education

In table 4.286, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of administrative product (APr) dimension of B.Ed. programme on principals of colleges of education is found to be non-significant, as the value of $F_{APr - State \times TOI (4, 15)} = 1.13$ is not significant at $\alpha = .05$. Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of administrative product dimension of B.Ed. programme on principals of colleges of education.

Hence, state and type of institution have no significant interaction effect on the impact of administrative product dimension of B.Ed. programme on principals of colleges of education.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of the administrative product dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.11   Main and Interaction Effect of State and Type of Institution on the Impact of Managerial Product Dimension of B.Ed. Programme on Principals of Colleges of Education

Main Effect of State on the Impact of Managerial Product Dimension of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of state on the impact of managerial product (MPr) dimension of B.Ed. programme on principals of colleges of education of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{MPr - State (2, 15)} = 3.57$ is not significant at $\alpha = .05$ (table 4.286). Thus, H_o stands accepted for the effect of state on the impact of managerial product dimension of B.Ed. programme on principals of colleges of education.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant differences on the impact of managerial product dimension of B.Ed. programme on principals of colleges of education. In other words, Principals of these three states agreed

together w. r. t. the impact of managerial product dimension of B.Ed. programme run in their colleges of education on them.

Main Effect of Type of Institution on the Impact of Managerial Product Dimension of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of type of institution on the impact of managerial product (MPr) dimension of B.Ed. programme on Principals of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{MPr - TOI (2, 15)} = 1.55$ is not significant at $\alpha = .05$ (table 4.286). Thus, H_o stands accepted for the effect of type of institution on the impact of managerial product dimension of B.Ed. programme on principals of colleges of education.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant differences on the impact of managerial product dimension of B.Ed. programme on Principals.

Interaction Effect of State and Type of Institution on the Impact of Managerial Product Dimension of B.Ed. Programme on Principals of Colleges of Education

In table 4.286, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of managerial product (MPr) dimension of B.Ed. programme on principals of colleges of education is found to be non-significant, as the values of $F_{MPr - State \, x \, TOI (4, 15)} = .40$ is not significant at $\alpha = .05$. Thus, H_o stands accepted for the interaction effect of state and type of institution on the impact of managerial product dimension of B.Ed. programme on principals of colleges of education.

Hence, state and type of institution have no significant interaction effect on the impact of managerial product dimension of B.Ed. programme on principals of colleges of education.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of managerial product dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.12 **Main and Interaction Effect of State and Type of Institution on the Impact of Training Product Dimension of B.Ed. Programme on Principals of Colleges of Education**

Main Effect of State on the Impact of Training Product Dimension of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of state on the impact of training product (TPr) dimension of B.Ed. programme on principals of colleges of education of the states of Punjab, Himachal Pradesh, and Haryana, as the value of $F_{TPr - State (2, 15)} = 1.53$ is not significant at $\alpha = .05$ (table 4.286). Thus, H_o stands accepted for the effect of state on the impact of training product dimension of B.Ed. programme on principals of colleges of education.

Hence, the states of Punjab, Haryana, and Himachal Pradesh have no significant differences on the impact of the training product dimension of B.Ed. programme on principals of colleges of education. In other words, Principals of these three states agreed together w. r. t. the impact of training product dimension of B.Ed. programme run in their colleges of education on them.

Main Effect of Type of Institution on the Impact of Training Product Dimension of B.Ed. Programme on Principals of Colleges of Education

There is a non-significant main effect of type of institution on the impact of training product (TPr) dimension of B.Ed. programme on Principals of the government, grant-in-aid, and self-financed colleges of education, as the value of $F_{TPr - TOI (2, 15)} = .58$ is not significant at $\alpha = .05$ (table 4.286). Thus, H_o stands accepted for the effect of type of institution on the impact of training product dimension of B.Ed. programme on principals of colleges of education.

Hence, all the three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant differences on the impact of training product dimension of B.Ed. programme on Principals.

Interaction Effect of State and Type of Institution on the Impact of Training Product Dimension of B.Ed. Programme on Principals of Colleges of Education

In tpable 4.286, the interaction effect of state and type of institution (i.e. by taking the effect of state and type of institution together) on the impact of training product (TPr) dimension of B.Ed. programme on principals of colleges of education is found to be non-significant, as the values of $F_{\text{TPr - State x TOI (4, 15)}}$ = .06 is not significant at α = .05. Thus, H$_\text{o}$ stands accepted for the interaction effect of state and type of institution on the impact of training product dimension of B.Ed. programme on principals of colleges of education.

Hence, state and type of institution have no significant interaction effect on the impact of training product dimension of B.Ed. programme on principals of colleges of education.

Hence, both the state and type of institution independently as well as together have no significant effect on the impact of training product dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.13   Effect of Type of Self-Financed Institution on the Dimensionwise Impact of B.Ed. Programme on Principals of Colleges of Education

t-test (independent samples) was applied to study the effect of a single independent variable i.e., type of self-financed institution on a single dependent variable i.e., the dimensionwise impact of B.Ed. programme (IBP) on principals of colleges of education on the data obtained in terms of rating scores of principals of colleges of education on ESIBP (dimensionwise data) after the computation of means and standard deviations. The term type of self-financed institution, here, refers to two types of self-financed institutions i.e., self-financed institutions affiliated to state government universities (SFISGU) and self-financed institutions affiliated to private universities (SFIPU) (table 4.287A).

The significance of the difference between means of the impact of twelve dimensions, i.e., Mission & Vision (MV); Programme Objectives (PO); Academic & Evaluation Input (AEI); Resource Input (RI); Training Input (TI); Professional Input (PI); Administrative & Academic Process (AAP); Professional Process (PP); Training & Evaluation Process (TEP); Administrative Product (APr); Managerial Product (MPr); and Training Product

(TPr) of four factors of evaluation i.e., Context, Input, Process, and Product factors, of B.Ed. programme in case of principals of colleges of education with respect to university have been computed, compared (table 4.288), and tested against the following null hypothesis:

H_o: There is no significant difference in the dimensionwise impact of B.Ed. programme on principals of colleges of education with respect to the type of self-financed institution.

Table 4.287A

Means Matrices Showing Significance of Difference in Means regarding the Dimensionwise Impact of B.Ed. Programme on Principals of Colleges of Education with respect to Type of Self-Financed Institution

Sr. No.	Dimensions of B.Ed. Programme	University			SFISGU	SFIPU
			N	Mean SD	3.29 .55	3.42 .14
1	*Mission & Vision (MV)*	SFISGU	7	3.29 .55	-	.59
		SFIPU	3	3.42 .14		-
2	*Programme Objectives (PO)*			Mean SD	3.21 .55	3.08 .14
		SFISGU	7	3.21 .55	-	.59
		SFIPU	3	3.08 .14		-
3	*Academic & Evaluation Input (AEI)*			Mean SD	3.20 .57	3.07 .12
		SFISGU	7	3.20 .57	-	.39
		SFIPU	3	3.07 .12		-
4	*Resource Input (RI)*			Mean SD	3.05 .76	3.44 .51
		SFISGU	7	3.05 .76	-	.82
		SFIPU	3	3.44 .51		-

				Mean	3.00	3.25
				SD ↓	.68	.43
5	*Training Input (TI)*	**SFISGU**	7	3.00 .68	-	.58
		SFIPU	3	3.25 .43		-
				Mean	3.24	3.33
				SD ↓	.66	.34
6	*Professional Input (PI)*	**SFISGU**	7	3.24 .66	-	.23
		SFIPU	3	3.33 .34		-
				Mean	3.25	3.25
				SD ↓	.91	.43
7	*Administrative &Academic Process (AAP)*	**SFISGU**	7	3.25 .91	-	.00
		SFIPU	3	3.25 .43		-
				Mean	3.29	3.17
				SD ↓	.44	.29
8	*Professional Process (PP)*	**SFISGU**	7	3.29 .44	-	.42
		SFIPU	3	3.17 .29		-
				Mean	3.34	3.46
				SD ↓	.68	.31
9	*Training & Evaluation Process (TEP)*	**SFISGU**	7	3.34 .68	-	.28
		SFIPU	3	3.46 .31		-
				Mean	2.69	3.00
				SD ↓	.45	.53
10	*Administrative Product (APr)*	**SFISGU**	7	2.69 .45	-	.97
		SFIPU	3	3.00 .53		-
				Mean	3.10	3.33
				SD ↓	.37	.58
11	*Managerial Product (MPr)*	**SFISGU**	7	3.10 .37	-	.80
		SFIPU	3	3.33 .58		-

				Mean	3.00	3.67
	Training			**SD** ↓	.65	.58
12	*Product*	**SFISGU**	7	3.00 .65	-	1.54
	(TPr)	**SFIPU**	3	3.67 .58		**-**

*** α = .01 and * α = .05*

SFISGU (Self-financed institutions affiliated with state government universities) and SFIPU (Self-financed institutions affiliated with private universities)

4.2.3.5.13.1 Effect of Type of Self-Financed Institution on the Impact of Mission & Vision Dimension of B.Ed. Programme on Principals of Colleges of Education

The statistically non-significant mean difference on the impact of mission & vision dimension of B.Ed. programme on principals of colleges of education is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 3.29) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 3.42), as the value of t $_{(8)}$ = .59 is not significant at α = .05 (table 4.287A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant effect on the impact of the mission & vision dimension of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of mission & vision dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.13.2 Effect of Type of Self-Financed Institution on the Impact of Programme Objectives Dimension of B.Ed. Programme on Principals of Colleges of Education

The statistically non-significant mean difference on the impact of programme objectives dimension of B.Ed. programme on principals of colleges of education is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 3.21) vs self-

financed institutions affiliated to private universities (M_{SFIPU} = 3.08), as the value of t $_{(8)}$ = .59 is not significant at α = .05 (table 4.287A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant effect on the impact of programme objectives dimension of B.Ed. programme on principals of colleges of education. Thus, H$_o$ stands accepted for the principals of colleges of education of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of programme objectives dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.13.3 Effect of Type of Self-Financed Institution on the Impact of Academic & Evaluation Input Dimension of B.Ed. Programme on Principals of Colleges of Education

The statistically non-significant mean difference on the impact of academic & evaluation input dimension of B.Ed. programme on principals of colleges of education is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 3.20) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 3.07), as the value of t $_{(8)}$ = .39 is not significant at α = .05 (table 4.287A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated with private universities have no significant effect on the impact of the academic input dimension of B.Ed. programme on principals of colleges of education. Thus, H$_o$ stands accepted for the principals of colleges of education of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of academic & evaluation input dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.13.4 Effect of Type of Self-Financed Institution on the Impact of Resource Input Dimension of B.Ed. Programme on Principals of Colleges of Education

The statistically non-significant mean difference on the impact of resource input dimension of B.Ed. programme on principals of colleges of education is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 3.05) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 3.44), as the value of t $_{(8)}$ = .82 is not significant at α = .05 (table 4.287A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant effect on the impact of the resource input dimension of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of resource input dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.13.5 Effect of Type of Self-Financed Institution on the Impact of Training Input Dimension of B.Ed. Programme on Principals of Colleges of Education

The statistically non-significant mean difference on the impact of training input dimension of B.Ed. programme on principals of colleges of education is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 3.00) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 3.25), as the value of t $_{(48)}$ = .58 is not significant at α = .05 (table 4.287A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated with private universities have no significant effect on the impact of the training input dimension of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the self-financed institutions

affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of the Training Input dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.13.6 Effect of Type of Self-Financed Institution on the Impact of Professional Input Dimension of B.Ed. Programme on Principals of Colleges of Education

The statistically non-significant mean difference on the impact of professional input dimension of B.Ed. programme on principals of colleges of education is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 3.24) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 3.33), as the value of t $_{(8)}$ = .23 is not significant at α = .05 (table 4.287A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant effect on the impact of the professional input dimension of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of the professional input dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.13.7 Effect of Type of Self-Financed Institution on the Impact of Administrative & Academic Process Dimension of B.Ed. Programme on Principals of Colleges of Education

The statistically non-significant mean difference on the impact of administrative & academic process dimension of B.Ed. programme on principals of colleges of education is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 3.25) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 3.25), as the value of t $_{(8)}$ = .00 is not significant at α = .05 (table 4.287A). Therefore, the self-financed institutions affiliated with state government universities and self-financed

institutions affiliated to private universities have no significant effect on the impact of administrative & academic process dimension of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of administrative & academic process dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.13.8 Effect of Type of Self-Financed Institution on the Impact of Professional Process Dimension of B.Ed. Programme on Principals of Colleges of Education

The statistically non-significant mean difference on the impact of professional process dimension of B.Ed. programme on principals of colleges of education is between the self-financed institutions affiliated to state government universities ($M_{SFISGU} = 3.29$) vs self-financed institutions affiliated to private universities ($M_{SFIPU} = 3.17$), as the value of $t_{(8)} = .42$ is not significant at $\alpha = .05$ (table 4.287A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant effect on the impact of the professional process dimension of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of the professional process dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.13.9 **Effect of Type of Self-Financed Institution on the Impact of Training & Evaluation Process Dimension of B.Ed. Programme on Principals of Colleges of Education**

The statistically non-significant mean difference on the impact of training & evaluation process dimension of B.Ed. programme on principals of colleges of education is between the self-financed institutions affiliated to state government universities ($M_{SFISGU} = 3.34$) vs self-financed institutions affiliated to private universities ($M_{SFIPU} = 3.46$), as the value of $t_{(8)} = .28$ is not significant at $\alpha = .05$ (table 4.287A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated with private universities have no significant effect on the impact of training & evaluation process dimension on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of the training & evaluation process dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.13.10 **Effect of Type of Self-Financed Institution on the Impact of Administrative Product Dimension of B.Ed. Programme on Principals of Colleges of Education**

The statistically non-significant mean difference on the impact of administrative product dimension of B.Ed. programme on principals of colleges of education is between the self-financed institutions affiliated to state government universities ($M_{SFISGU} = 2.69$) vs self-financed institutions affiliated to private universities ($M_{SFIPU} = 3.00$), as the value of $t_{(8)} = .97$ is not significant at $\alpha = .05$ (table 4.287A). Therefore, the self-financed institutions affiliated with state government universities and self-financed institutions affiliated to private universities have no significant effect on the impact of the administrative product dimension of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the self-financed institutions

affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of the administrative product dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.13.11 Effect of Type of Self-Financed Institution on the Impact of Managerial Product Dimension of B.Ed. Programme on Principals of Colleges of Education

The statistically non-significant mean difference on the impact of managerial product dimension of B.Ed. programme on principals of colleges of education is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 3.10) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 3.33), as the value of t $_{(8)}$ = .80 is not significant at α = .05 (table 4.287A) Therefore, the self-financed institutions affiliated to state government universities and self-financed institutions affiliated to private universities have no significant impact of managerial product dimension of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of managerial product dimension of B.Ed. programme on principals of colleges of education.

4.2.3.5.13.12 Effect of Type of Self-Financed Institution on the Impact of Training Product Dimension of B.Ed. Programme on Principals of Colleges of Education

The statistically non-significant mean difference on the impact of training product dimension of B.Ed. programme on principals of colleges of education is between the self-financed institutions affiliated to state government universities (M_{SFISGU} = 3.00) vs self-financed institutions affiliated to private universities (M_{SFIPU} = 3.67), as the value of t $_{(8)}$ = 1.54 is not significant at α = .05 (table 4.287A). Therefore, the self-financed institutions

affiliated with state government universities and self-financed institutions affiliated to private universities have no significant effect on the impact of the training product dimension of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the self-financed institutions affiliated to state government universities vs self-financed institutions affiliated to private universities.

Hence, the type of self-financed institution has no significant effect on the impact of training product dimension of B.Ed. programme on principals of colleges of education.

4.2.3.6 Effect of University on the Dimensionwise Impact of B.Ed. Programme on Principals of Colleges of Education

t-test (independent samples) was applied to study the effect of a single independent variable i.e., university on a single dependent variable i.e., the dimensionwise impact of B.Ed. programme (IBP) on principals of colleges of education on the data obtained in terms of rating scores of principals of colleges of education on ESIBP (Dimensionwise Data) after the computation of means and standard deviations. The term university here refers to two universities i.e., state government universities (SGU) and private universities (PU) (table 4.288).

The significance of the difference between means of the impact of twelve dimensions, i.e., Mission & Vision (MV); Programme Objectives (PO); Academic & Evaluation Input (AEI); Resource Input (RI); Training Input (TI); Professional Input (PI); Administrative & Academic Process (AAP); Professional Process (PP); Training & Evaluation Process (TEP); Administrative Product (APr); Managerial Product (MPr); and Training Product (TPr) of four factors of evaluation i.e., Context, Input, Process, and Product factors, of B.Ed. programme in case of principals of colleges of education with respect to university have been computed, compared (table 4.288), and tested against the following null hypothesis:

H_o: There is no significant difference in the dimensionwise impact of B.Ed. programme on principals of colleges of education with respect to the university.

Table 4.288
Means Matrices Showing Significance of Difference in Means regarding the Dimensionwise Impact of B.Ed. Programme on Principals of Colleges of Education with respect to University

Sr. No.	Dimensions of B.Ed. Programme	University	N	Mean SD		SGU	PU
				Mean SD		12.57 2.01	13.67 .58
1	*Mission & Vision (MV)*	SGU	21	12.57 2.01		-	.92
		PU	03	13.67 .58			-
2	*Programme Objectives (PO)*			Mean SD		12.14 1.88	12.33 .58
		SGU	21	12.14 1.88		-	.17
		PU	03	12.33 .58			-
3	*Academic & Evaluation Input (AI)*			Mean SD		15.52 2.18	15.33 .58
		SGU	21	15.52 2.18		-	.15
		PU	03	15.33 .58			-
4	*Resource Input (RI)*			Mean SD		9.38 1.63	10.33 1.53
		SGU	21	9.38 1.63		-	.95
		PU	03	10.33 1.53			-
5	*Training Input (TI)*			Mean SD		12.81 2.04	13.00 1.73
		SGU	21	12.81 2.04		-	.15
		PU	03	13.00 1.73			-
6	*Professional Input (PI)*			Mean SD		9.52 1.78	10.00 1.00
		SGU	21	9.52 1.78		-	.45
		PU	150	10.00 1.00			-

					13.14 2.39	13.00 1.73
7	*Administrative &Academic Process (AAP)*			**Mean SD**		
		SGU	21	13.14 2.39	-	.10
		PU	03	13.00 1.73		-
8	*Professional Process (PP)*			**Mean SD**	12.62 1.91	12.67 1.16
		SGU	21	12.62 1.91	-	.04
		PU	03	12.67 1.16		-
9	*Training & Evaluation Process (TEP)*			**Mean SD**	25.95 3.97	27.67 2.52
		SGU	21	25.95 3.97	-	.72
		PU	03	27.67 2.52		-
10	*Administrative Product (APr)*			**Mean SD**	14.52 2.20	15.00 2.65
		SGU	21	14.52 2.20	-	.34
		PU	03	15.00 2.65		-
11	*Managerial Product (MPr)*			**Mean SD**	9.24 1.22	10.00 1.73
		SGU	21	9.24 1.22	-	.97
		PU	03	10.00 1.73		-
12	*TrainingProduct (TPr)*			**Mean SD**	12.43 2.18	14.67 2.31
		SGU	21	12.43 2.18	-	1.65
		PU	03	14.67 2.31		-

$^{**}α = .01$ *and* $^{*}α = .05$

4.2.3.6.1 Effect of University on the Impact of Mission & Vision Dimension of B.Ed. Programme on Principals of Colleges of Education

The comparisons of means on the impact of mission & vision dimension of B.Ed. programme on principals of colleges of education is between the state government universities ($M_{SGU} = 12.57$) vs private universities ($M_{PU} = 13.67$), as the value of t $_{(22)}$ = .92 is not significant at $\alpha = .05$ (table 4.288). Therefore, the state government universities and private universities have no significant effect on the impact of the mission & vision dimension of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of the mission & vision dimension of B.Ed. programme on principals of colleges of education.

4.2.3.6.2 Effect of University on the Impact of Programme Objectives Dimension of B.Ed. Programme on Principals of Colleges of Education

The comparisons of means on the impact of programme objectives dimension of B.Ed. programme on principals of colleges of education is between the state government universities ($M_{SGU} = 12.14$) vs private universities ($M_{PU} = 12.33$), as the value of t $_{(22)}$ = .17 is not significant at $\alpha = .05$ (table 4.288). Therefore, the state government universities and private universities have no significant effect on the impact of programme objectives dimension of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of programme objectives dimension of B.Ed. programme on principals of colleges of education.

4.2.3.6.3 Effect of University on the Impact of Academic & Evaluation Input Dimension of B.Ed. Programme on Principals of Colleges of Education

The comparisons of means on the impact of Academic & Evaluation Input dimension of B.Ed. programme on principals of colleges of education is between the state government universities ($M_{SGU} = 15.52$) vs private universities ($M_{PU} = 15.33$), as the value of t $_{(22)}$ =

.15 is not significant at $\alpha = .05$ (table 4.288). Therefore, the state government universities and private universities have no significant effect on the impact of academic & evaluation input dimension of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of academic & evaluation input dimension of B.Ed. programme on principals of colleges of education.

4.2.3.6.4 Effect of University on the Impact of Resource Input Dimension of B.Ed. Programme on Principals of Colleges of Education

The comparisons of means on the impact of resource input dimension of B.Ed. programme on principals of colleges of education is between the state government universities ($M_{SGU} = 9.38$) vs private universities ($M_{PU} = 10.33$), as the value of t $_{(22)}$ = .95 is not significant at $\alpha = .05$ (table 4.288). Therefore, the state government universities and private universities have no significant effect on the impact of resource input dimension of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of resource input dimension of B.Ed. programme on principals of colleges of education.

4.2.3.6.5 Effect of University on the Impact of Training Input Dimension of B.Ed. Programme on Principals of Colleges of Education

The comparisons of means on the impact of training input dimension of B.Ed. programme on principals of colleges of education is between the state government universities ($M_{SGU} = 12.81$) vs private universities ($M_{PU} = 13.00$), as the value of t $_{(22)}$ = .15 is not significant at $\alpha = .05$ (table 4.288). Therefore, the state government universities and private universities have no significant effect on the impact of the training input dimension of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of training input dimension of B.Ed. programme on principals of colleges of education.

4.2.3.6.6   Effect of University on the Impact of Professional Input Dimension of B.Ed. Programme on Principals of Colleges of Education

The comparisons of means on the impact of professional input dimension of B.Ed. programme on principals of colleges of education is between the state government universities (M_{SGU} = 9.52) vs private universities (M_{PU} = 10.00), as the value of t $_{(22)}$ = .45 is not significant at α = .05 (table 4.288). Therefore, the state government universities and private universities have no significant effect on the impact of the professional input dimension of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of the professional input dimension of B.Ed. programme on principals of colleges of education.

4.2.3.6.7   Effect of University on the Impact of Administrative & Academic Process Dimension of B.Ed. Programme on Principals of Colleges of Education

The comparisons of means on the impact of administrative & academic process dimension of B.Ed. programme on principals of colleges of education is between the state government universities (M_{SGU} = 13.14) vs private universities (M_{PU} = 13.00), as the value of t $_{(22)}$ = .10 is not significant at α = .05 (table 4.288). Therefore, the state government universities and private universities have no significant effect on the impact of administrative & academic process dimension of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of administrative & academic process dimension of B.Ed. programme on principals of colleges of education.

4.2.3.6.8   Effect of University on the Impact of Professional Process Dimension of B.Ed. Programme on Principals of Colleges of Education

The comparisons of means on the impact of professional process dimension of B.Ed. programme on principals of colleges of education is between the state government universities (M_{SGU} = 12.62) vs private universities (M_{PU} = 12.67), as the value of $t_{(22)}$ = .04 is not significant at α = .05 (table 4.288). Therefore, the state government universities and private universities have no significant effect on the impact of the professional process dimension on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of the professional process dimension of B.Ed. programme on principals of colleges of education.

4.2.3.6.9   Effect of University on the Impact of Training & Evaluation Process Dimension of B.Ed. Programme on Principals of Colleges of Education

The comparisons of means on the impact of training & evaluation process dimension of B.Ed. programme on principals of colleges of education is between the state government universities (M_{SGU} = 25.95) vs private universities (M_{PU} = 27.67), as the value of $t_{(22)}$ = .72 is not significant at α = .05 (table 4.288). Therefore, the state government universities and private universities have no significant effect on the impact of the training & evaluation process dimension of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of training & evaluation process dimension of B.Ed. programme on principals of colleges of education.

4.2.3.6.10   Effect of University on the Impact of Administrative Product Dimension of B.Ed. Programme on Principals of Colleges of Education

The comparisons of means on the impact of administrative product dimension of B.Ed. programme on principals of colleges of education is between the state government universities (M_{SGU} = 14.52) vs private universities (M_{PU} = 15.00), as the value of $t_{(22)}$ =

.34 is not significant at α = .05 (table 4.288). Therefore, the state government universities and private universities have no significant effect on the impact of the administrative product dimension of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of the administrative product dimension of B.Ed. programme on principals of colleges of education.

4.2.3.6.11   Effect of University on the Impact of Managerial Product Dimension of B.Ed. Programme on Principals of Colleges of Education

The comparisons of means on the impact of managerial product dimension of B.Ed. programme on principals of colleges of education is between the state government universities (M_{SGU} = 9.24) vs private universities (M_{PU} = 10.00), as the value of t $_{(22)}$ = .97 is not significant at α = .05 (table 4.288). Therefore, the state government universities and private universities have no significant effect on the impact of managerial product dimension of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of managerial product dimension of B.Ed. programme on principals of colleges of education.

4.2.3.6.12   Effect of University on the Impact of Training Product Dimension of B.Ed. Programme on Principals of Colleges of Education

The comparisons of means on the impact of Training Product dimension of B.Ed. programme on principals of colleges of education is between the state government universities (M_{SGU} = 12.43) vs private universities (M_{PU} = 14.67), as the value of t $_{(22)}$ = 1.65 is not significant at α = .05 (table 4.288). Therefore, the state government universities and private universities have no significant effect on the impact of training product dimension of B.Ed. programme on principals of colleges of education. Thus, H_o stands accepted for the principals of colleges of education of the state government universities vs private universities.

Hence, type of university has no significant effect on the impact of the training product dimension of B.Ed. programme on principals of colleges of education.

4.2.3.7 EFFECT OF STATE, UNIVERSITY, AND TYPE OF INSTITUTION ON THE STATEMENTWISE IMPACT OF B.ED. PROGRAMME ON PRINCIPALS OF COLLEGES OF EDUCATION

The objective was to study the statementwise impact of B.Ed. programme on principals of colleges of education with respect to state, university, and type of institution. After administering ESIBP; χ^2 test was applied to study the significance of differences in the observed and expected frequencies corresponding to statementswise impact of B.Ed. programme on principals of colleges of education with respect to state, universities, and type of institution separately.

4.2.3.7.1 Effect of State on the Statementwise Impact of B.Ed. Programme on Principals of Colleges of Education

To study the statementwise impact of B.Ed. programme on principals of colleges of education with respect to state; χ^2 test was applied on the data in frequencies obtained by counting the number of participant principals of colleges of education who opted the same option on ESIBP, with respect to three levels of the states i.e., the state of Punjab (PB), Himachal Pradesh (HP) and Haryana (HR) and the results have been presented in table 4.289 (Refer Appendix-S-VII).

The significance of differences in the observed and expected frequencies corresponding to each statement of the impact of B.Ed. programme in case of principals of colleges of education with respect to the state have been compared and shown in table 4.289 and tested against the following null hypothesis:

H_o: There is no significant difference in the statementwise impact of B.Ed. programme on principals of colleges of education with respect to the state.

Table 4.289

Significance of Differences in the Statementwise Impact of B.Ed. Programme on Principals of Colleges of Education and Order of Impact with respect to State

Sr. No.	Factor	Dimension	Statement	fo (SD + D)			fo (A + SA)			χ^2	Order of Impact
				HP	HR	PB	HP	HR	PB		
1.	Context	Mission & Vision	MV_1	0	1	0	3	9	11	1.46	HP = HR = PB
2.			MV_2	0	0	1	3	10	10	1.23	HP = HR = PB
3.			MV_3	0	1	2	3	9	9	0.81	HP = HR = PB
4.			MV_4	0	3	5	3	7	6	2.28	HP = HR = PB
5.	Context	Programme Objectives	PO_1	0	1	2	3	9	9	0.81	HP = HR = PB
6.			PO_2	1	1	3	2	9	8	1.27	HP = HR = PB
7.			PO_3	0	0	3	3	10	8	4.05	HP = HR = PB
8.			PO_4	0	0	6	3	10	5	**9.45**[**]	**HR = HP > PB**
9.	Input	Academic & Evaluation Input	AEI_1	0	0	2	3	10	9	2.58	HP = HR = PB
10.			AEI_2	0	0	1	3	10	10	1.23	HP = HR = PB
11.			AEI_3	0	0	3	3	10	8	4.05	HP = HR = PB
12.			AEI_4	0	2	1	3	8	10	1.06	HP = HR = PB
13.			AEI_5	1	1	2	2	9	9	0.94	HP = HR = PB
14.	Input	Resource Input	RI_1	1	0	1	2	10	10	3.37	HP = HR = PB
15.			RI_2	2	0	3	1	10	8	**6.73**[*]	**HR > PB > HP**
16.			RI_3	1	0	1	2	10	10	3.37	HP = HR = PB
17.	Input	Training Input	TI_1	0	0	2	3	10	9	2.58	HP = HR = PB
18.			TI_2	1	1	1	2	9	10	1.36	HP = HR = PB
19.			TI_3	1	1	2	2	9	9	0.94	HP = HR = PB
20.			TI_4	1	0	1	2	10	10	3.37	HP = HR = PB
21.	Input	Professional Input	PI_1	0	1	2	3	9	9	0.81	HP = HR = PB
22.			PI_2	1	1	1	2	9	10	1.36	HP = HR = PB
23.			PI_3	1	1	2	2	9	9	0.94	HP = HR = PB
24.	Process	Administrative & Academic Process	AAP_1	0	0	2	3	10	9	2.58	HP = HR = PB
25.			AAP_2	0	0	1	3	10	10	1.23	HP = HR = PB
26.			AAP_3	1	0	1	2	10	10	3.37	HP = HR = PB
27.			AAP_4	0	0	1	3	10	10	1.23	HP = HR = PB

[**]$\alpha = .01$ and [*]$\alpha = .05$; χ^2 = Chi-Square; PB-Punjab; HP-Himachal Pradesh; HR-Haryana

Table 4.289

Significance of Differences in the Statementwise Impact of B.Ed. Programme on Principals of Colleges of Education

and Order of Impact with respect to State

Sr. No.	Factor	Dimension	Statement	fo (SD + D)			fo (A + SA)			χ^2	Order of Impact
				HP	HR	PB	HP	HR	PB		
28.	Process	Professional Process	PP$_1$	0	1	1	3	9	10	0.32	PB = HR = HP
29.			PP$_2$	1	1	1	2	9	10	1.36	PB = HR = HP
30.			PP$_3$	0	0	1	3	10	10	1.23	PB = HR = HP
31.			PP$_4$	1	2	0	2	8	11	3.28	PB = HR = HP
32.	Process	Training & Evaluation Process	TEP$_1$	0	0	1	3	10	10	1.23	PB = HR = HP
33.			TEP$_2$	0	0	3	3	10	8	4.05	PB = HR = HP
34.			TEP$_3$	1	0	0	2	10	11	**7.30***	**PB = HR > HP**
35.			TEP$_4$	1	0	1	2	10	10	3.37	PB = HR = HP
36.			TEP$_5$	1	1	1	2	9	10	1.36	PB = HR = HP
37.			TEP$_6$	0	0	2	3	10	9	2.58	PB = HR = HP
38.			TEP$_7$	0	1	0	3	9	11	1.46	PB = HR = HP
39.			TEP$_8$	1	1	1	2	9	10	1.36	PB = HR = HP
40.	Product	Administrative Product	APr$_1$	2	5	5	1	5	6	0.42	PB = HR = HP
41.			APr$_2$	1	3	5	2	7	6	0.56	PB = HR = HP
42.			APr$_3$	0	2	1	3	8	10	1.06	PB = HR = HP
43.			APr$_4$	1	1	2	2	9	9	0.94	PB = HR = HP
44.			APr$_5$	1	2	1	2	8	10	1.32	PB = HR = HP
45.	Product	Managerial Product	MPr$_1$	0	1	1	3	9	10	0.32	PB = HR = HP
46.			MPr$_2$	0	2	1	3	8	10	1.06	PB = HR = HP
47.			MPr$_3$	0	1	1	3	9	10	0.32	PB = HR = HP
48.	Product	Training Product	TPr$_1$	0	0	1	3	10	10	1.23	PB = HR = HP
49.			TPr$_2$	0	0	2	3	10	9	2.58	PB = HR = HP
50.			TPr$_3$	0	2	2	3	8	9	0.70	PB = HR = HP
51.			TPr$_4$	0	2	2	3	8	9	0.70	PB = HR = HP

***α = .01 and *α = .05; χ^2 = Chi-Square; PB-Punjab; HP-Himachal Pradesh; HR-Haryana*

A Chi-square test of independence for each statement of ESIBP-PCE was applied for computing and comparing the two combinations of observed frequencies (i.e. options 'strongly disagree' and 'disagree' as one combination and options 'agree' and 'strongly agree' as other combination) of principals of colleges of education of the states Himachal Pradesh, Haryana and Punjab (Refer Appendix-S-VII).

From table 4.289, there is an indication of significant differences in the effect of the state (i.e., three states Himachal Pradesh, Haryana, and Punjab) on the statementwise impact of B.Ed. programme on principals of colleges of education for three statements (i.e., PO_4; RI_2; and TEP_3) and non-significant differences in the effect of the state (i.e., three states Himachal Pradesh, Haryana, and Punjab) on the statementwise impact of B.Ed. programme on principals of colleges of education for forty eight statements (i.e., MV_1; MV_2; MV_3; MV_4; PO_1; PO_2; PO_3; AEI_1; AEI_2; AEI_3; AEI_4; AEI_5; RI_1; RI_3; TI_1; TI_2; TI_3; TI_4; PI_1; PI_2; PI_3; AAP_1; AAP_2; AAP_3; AAP_4; PP_1; PP_2; PP_3; PP_4; TEP_1; TEP_2; TEP_4; TEP_5; TEP_6; TEP_7; TEP_8; APr_1; APr_2; APr_3; APr_4; APr_5; MPr_1; MPr_2; MPr_3;TPr_1; TPr_2; TPr_3; and TPr_4). Thus, H_o stands not accepted for above mentioned three statements whereas H_o stands accepted for above mentioned forty-eight statements of ESIBP.

4.2.3.7.1.1   Effect of Himachal Pradesh on Statementwise Impact of B.Ed. Programme on Principals of Colleges of Education

The state of Himachal Pradesh has more effect on the impact of B.Ed. programme on principals of colleges of education for one statement of programme objectives (PO) dimension i.e., PO_4 (Increases employment opportunities for prospective teachers) of Context factor of B.Ed. programme as compared to the state Punjab (table 4.289).

4.2.3.7.1.2   Effect of Haryana on Statementwise Impact of B.Ed. Programme on Principals of Colleges of Education

The state of Haryana has more effect on the impact of B.Ed. programme on principals of colleges of education for one statement of programme objectives (PO) dimension i.e., PO_4 (Increases employment opportunities for prospective teachers) of Context factor of B.Ed. programme as compared to the state Punjab; one statement of resource input (RI) dimension i.e., RI_2 (Ensure availability of modern learning facilitates in classrooms) of

Input factor of B.Ed. programme as compared to the state Punjab and Himachal Pradesh; and one statement of training & evaluation process (TEP) dimension i.e., TEP_3 (Organize simulated teaching for developing teaching skills) of Process factor of B.Ed. programme as compared to the state Himachal Pradesh (table 4.289).

4.2.3.7.1.3 Effect of Punjab on Statementwise Impact of B.Ed. Programme on Principals of Colleges of Education

The state Punjab has more effect on the impact of B.Ed. programme on principals of colleges of education for one statement of resource input (RI) dimension i.e., RI_2 (Ensure availability of modern learning facilitates in classrooms) of Input factor of B.Ed. programme and one statement of training & evaluation process (TEP) dimension i.e., TEP_3 (Organize simulated teaching for developing teaching skills) of Process factor of B.Ed. programme as compared to the state Himachal Pradesh (table 4.289).

4.2.2.7.2 Effect of University on the Statementwise Impact of B.Ed. Programme on Principals of Colleges of Education

To study the statementwise impact of B.Ed. programme on principals of colleges of education with respect to university; χ^2 test was applied on the data in frequencies obtained by counting the number of participant principals of colleges of education who opted the same option on ESIBP, with respect to two levels of the universities i.e., state government universities (SGU) and private universities (PU) and the results have been presented in table 4.290 (Refer Appendix-S-VIII).

The significance of differences in the observed and expected frequencies corresponding to each statement of the impact of B.Ed. programme in case of principals of colleges of education with respect to university have been compared and shown in table 4.290 and tested against the following null hypothesis:

H_o: There is no significant difference in the statementwise impact of B.Ed. programme on principals of colleges of education with respect to the university.

Table 4.290

Significance of Differences in the Statementwise Impact of B.Ed. Programme on Principals of Colleges of Education and Order of Impact with respect to University

Sr. No.	Factor	Dimension	Statement	fo (SD + D)		fo (A + SA)		χ^2	Order of Impact
				SGU	PU	SGU	PU		
1.	Context	Mission & Vision	MV$_1$	1	0	20	3	0.15	SGU = PU
2.			MV$_2$	1	0	20	3	0.15	SGU = PU
3.			MV$_3$	3	0	18	3	0.49	SGU = PU
4.			MV$_4$	7	1	14	2	0.00	SGU = PU
5.	Context	Programme Objectives	PO$_1$	3	0	18	3	0.49	SGU = PU
6.			PO$_2$	4	1	17	2	0.32	SGU = PU
7.			PO$_3$	3	0	18	3	0.49	SGU = PU
8.			PO$_4$	5	1	16	2	0.13	SGU = PU
9.	Input	Academic & Evaluation Input	AEI$_1$	2	0	19	3	0.31	SGU = PU
10.			AEI$_2$	1	0	20	3	0.15	SGU = PU
11.			AEI$_3$	3	0	18	3	0.49	SGU = PU
12.			AEI$_4$	3	0	18	3	0.49	SGU = PU
13.			AEI$_5$	4	0	17	3	0.69	SGU = PU
14.	Input	Resource Input	RI$_1$	2	0	19	3	0.31	SGU = PU
15.			RI$_2$	5	0	16	3	0.90	SGU = PU
16.			RI$_3$	2	0	19	3	0.31	SGU = PU
17.	Input	Training Input	TI$_1$	2	0	19	3	0.31	SGU = PU
18.			TI$_2$	3	0	18	3	0.49	SGU = PU
19.			TI$_3$	4	0	17	3	0.69	SGU = PU
20.			TI$_4$	2	0	19	3	0.31	SGU = PU
21.	Input	Professional Input	PI$_1$	3	0	18	3	0.49	SGU = PU
22.			PI$_2$	3	0	18	3	0.49	SGU = PU
23.			PI$_3$	4	0	17	3	0.69	SGU = PU
24.	Process	Administrative & Academic Process	AAP$_1$	2	0	19	3	0.31	SGU = PU
25.			AAP$_2$	1	0	20	3	0.15	SGU = PU
26.			AAP$_3$	2	0	19	3	0.31	SGU = PU
27.			AAP$_4$	1	0	20	3	0.15	SGU = PU

[**]α = .01 and [*]α = .05; χ^2 = Chi-Square; SGU-State Government Universities; PU-Private Universities

Table 4.290

Significance of Differences in the Statementwise Impact of B.Ed. Programme on Principals of Colleges of Education and Order of Impact with respect to University

Sr. No.	Factor	Dimension	Statement	fo (SD + D)		fo (A + SA)		χ^2	Order of Impact
				SGU	PU	SGU	PU		
28.	Process	Professional Process	PP$_1$	2	0	19	3	0.31	SGU = PU
29.			PP$_2$	3	0	18	3	0.49	SGU = PU
30.			PP$_3$	1	0	20	3	0.15	SGU = PU
31.			PP$_4$	3	0	18	3	0.49	SGU = PU
32.	Process	Training & Evaluation Process	TEP$_1$	1	0	20	3	0.15	SGU = PU
33.			TEP$_2$	3	0	18	3	0.49	SGU = PU
34.			TEP$_3$	1	0	20	3	0.15	SGU = PU
35.			TEP$_4$	2	0	19	3	0.31	SGU = PU
36.			TEP$_5$	3	0	18	3	0.49	SGU = PU
37.			TEP$_6$	2	0	19	3	0.31	SGU = PU
38.			TEP$_7$	1	0	20	3	0.15	SGU = PU
39.			TEP$_8$	3	0	18	3	0.49	SGU = PU
40.	Product	Administrative Product	APr$_1$	9	3	12	0	**3.43***	**SGU > PU**
41.			APr$_2$	7	2	14	1	1.24	SGU = PU
42.			APr$_3$	3	0	18	3	0.49	SGU = PU
43.			APr$_4$	4	0	17	3	0.69	SGU = PU
44.			APr$_5$	3	0	18	3	0.49	SGU = PU
45.	Product	Managerial Product	MPr$_1$	2	0	19	3	0.31	SGU = PU
46.			MPr$_2$	3	0	18	3	0.49	SGU = PU
47.			MPr$_3$	2	0	19	3	0.31	SGU = PU
48.	Product	Training Product	TPr$_1$	1	0	20	3	0.15	SGU = PU
49.			TPr$_2$	2	0	19	3	0.31	SGU = PU
50.			TPr$_3$	4	0	17	3	0.69	SGU = PU
51.			TPr$_4$	4	0	17	3	0.69	SGU = PU

$^{**}\alpha = .01$ and $^*\alpha = .05$; χ^2 = Chi-Square; SGU-State Government Universities; PU-Private Universities

A Chi-square test of independence for each statement of ESIBP- PCE was applied for computing and comparing the two combinations of observed frequencies (i.e. options 'strongly disagree' and 'disagree' as one combination and options 'agree' and 'strongly agree' as other combination) of principals of colleges of education of the state government universities and private universities (Refer Appendix-S-VIII).

From table 4.290, there is an indication of significant differences in the effect of the university (i.e., state government universities and private universities) on the statementwise impact of B.Ed. programme on principals of colleges of education for one statement (i.e., APr_1) and non significant differences in the effect of the university (i.e., two universities-state government universities and private universities) on the statementwise IBP on PCE for fifty statements (i.e., MV_1; MV_2; MV_3; MV_4; PO_1; PO_2; PO_3; PO_4; AEI_1; AEI_2; AEI_3; AEI_4; AEI_5; RI_1; RI_2; RI_3; TI_1; TI_2; TI_3; TI_4; PI_1; PI_2; PI_3; AAP_1; AAP_2; AAP_3; AAP_4; PP_1; PP_2; PP_3; PP_4; TEP_1; TEP_2; TEP_3; TEP_4; TEP_5; TEP_6; TEP_7; TEP_8; APr_2; APr_3; APr_4; APr_5; MPr_1; MPr_2; MPr_3; TPr_1; TPr_2; TPr_3; and TPr_4). Thus, H_o stands not accepted for above mentioned one statement whereas H_o stands accepted for above mentioned fifty statements of ESIBP- PCE.

4.2.2.7.2.1 Effect of State Government Universities on Statementwise Impact of B.Ed. Programme on Principals of Colleges of Education

The state government universities have more effect on the impact of B.Ed. programme on principals of colleges of education for one statement of administrative product (APr) dimension i.e., APr_1 (Increased the focus on getting admissions) of Product factor of B.Ed. programme as compared to private universities (table 4.290).

4.2.2.7.2.2 Effect of Private Universities on Statementwise Impact of B.Ed. Programme on Principals of Colleges of Education

The private universities have less effect on the impact of B.Ed. programme on principals of colleges of education for three statements of one statement of administrative product (APr) dimension i.e., APr_1 (Increased the focus on getting admissions) of Product factor of B.Ed. programme as compared to state government universities (table 4.290).

4.2.3.7.3   **Effect of Type of Institution on the Statementwise Impact of B.Ed. Programme on Principals of Colleges of Education**

To study the statementwise impact of B.Ed. programme on principals of colleges of education with respect to the type of institution; χ^2 test was applied on the data in frequencies obtained by counting the number of participant principals of colleges of education who opted the same option on ESIBP, with respect to three levels of the type of institution i.e., the government colleges of education (GCE), grant-in-aid colleges of education (GIACE) and self-financed colleges of education (SFCE) and the results have been presented in table 4.291 (Refer Appendix-S-IX).

The significance of differences in the observed and expected frequencies corresponding to each statement of the impact of B.Ed. programme in case of principals of colleges of education with respect to the type of institution has been compared (table 4.291) and tested against the following null hypothesis:

H_o: There is no significant difference in the statementwise impact of B.Ed. programme on principals of colleges of education with respect to type of institution.

A Chi-square test of independence for each statement of ESIBP-PCE was applied for computing and comparing the two combinations of observed frequencies (i.e. options 'strongly disagree' and 'disagree' as one combination and options 'agree' and 'strongly agree' as other combination) of principals of colleges of education of government, grant-in-aid and self-financed colleges of education (Refer Appendix-S-IX).

From table 4.291, there is an indication of significant differences in the effect of type of institution (i.e., government, grant-in-aid, and self-financed colleges of education) on the statementwise impact of B.Ed. programme on principals of colleges of education for two statements (i.e., AEI_5 and MPr_3) and non-significant differences in the effect of the state (i.e., three types of institutions-government, grant-in-aid, and self-financed colleges of education) on the statementwise impact of B.Ed. programme on principals of colleges of education for forty nine statements (i.e., MV_1; MV_2; MV_3; MV_4; PO_1; PO_2; PO_3; PO_4; AEI_1; AEI_2; AEI_3; AEI_4; RI_1; RI_2; RI_3; TI_1; TI_2; TI_3; TI_4; PI_1; PI_2; PI_3; AAP_1; AAP_2; AAP_3; AAP_4; PP_1; PP_2; PP_3; PP_4; TEP_1;

Table 4.291

Significance of Differences in the Statementwise Impact of B.Ed. Programme on Principals of Colleges of Education and Order of Impact with respect to Type of Institution

Sr. No.	Factor	Dimension	Statement	f_o (SD + D)			f_o (A + SA)			χ^2	Order of Impact
				GIACE	GCE	SFCE	GIACE	GCE	SFCE		
1.	Context	Mission & Vision	MV_1	0	1	0	7	6	10	2.53	GCE=GICE=SFCE
2.			MV_2	0	1	0	7	6	10	2.53	GCE=GICE=SFCE
3.			MV_3	1	1	1	6	6	9	0.10	GCE=GICE=SFCE
4.			MV_4	3	2	3	4	5	7	0.41	GCE=GICE=SFCE
5.	Context	Programme Objectives	PO_1	1	2	0	6	5	10	3.10	GCE=GICE=SFCE
6.			PO_2	0	2	3	7	5	7	2.61	GCE=GICE=SFCE
7.			PO_3	1	1	1	6	6	9	0.10	GCE=GICE=SFCE
8.			PO_4	2	1	3	5	6	7	0.61	GCE=GICE=SFCE
9.	Input	Academic & Evaluation Input	AEI_1	0	1	1	7	6	9	1.00	GCE=GICE=SFCE
10.			AEI_2	0	0	1	7	7	9	1.46	GCE=GICE=SFCE
11.			AEI_3	0	2	1	7	5	9	2.71	GCE=GICE=SFCE
12.			AEI_4	1	1	1	6	6	9	0.10	GCE=GICE=SFCE
13.			AEI_5	0	3	1	7	4	9	**5.18***	**GIACE>SFCE>GCE**
14.	Input	Resource Input	RI_1	0	0	2	7	7	8	3.05	GCE=GICE=SFCE
15.			RI_2	0	2	3	7	5	7	2.61	GCE=GICE=SFCE
16.			RI_3	0	1	1	7	6	9	1.00	GCE=GICE=SFCE
17.	Input	Training Input	TI_1	0	0	2	7	7	8	3.05	GCE=GICE=SFCE
18.			TI_2	0	1	2	7	6	8	1.53	GCE=GICE=SFCE
19.			TI_3	0	1	3	7	6	7	2.71	GCE=GICE=SFCE
20.			TI_4	0	0	2	7	7	8	3.05	GCE=GICE=SFCE
21.	Input	Professional Input	PI_1	2	0	1	5	7	9	2.71	GCE=GICE=SFCE
22.			PI_2	1	1	1	6	6	9	0.10	GCE=GICE=SFCE
23.			PI_3	1	1	2	6	6	8	0.14	GCE=GICE=SFCE
24.	Process	Administrative & Academic Process	AAP_1	0	0	2	7	7	8	3.05	GCE=GICE=SFCE
25.			AAP_2	0	0	1	7	7	9	1.46	GCE=GICE=SFCE
26.			AAP_3	0	1	1	7	6	9	1.00	GCE=GICE=SFCE
27.			AAP_4	0	0	1	7	7	9	1.46	GCE=GICE=SFCE

$^{**}\alpha = .01 \ and \ ^*\alpha = .05; \ \chi^2 = Chi\text{-}Square$

Table 4.291

Significance of Differences in the Statementwise Impact of B.Ed. Programme on Principals of Colleges of Education and Order of Impact with respect to Type of Institution

Sr. No.	Factor	Dimension	Statement	fo (SD + D)			fo (A + SA)			χ^2	Order of Impact
				GIACE	GCE	SFCE	GIACE	GCE	SFCE		
28.	Process	Professional Process	PP$_1$	1	1	0	6	6	10	1.56	GCE=GICE=SFCE
29.			PP$_2$	1	0	2	6	7	8	1.53	GCE=GICE=SFCE
30.			PP$_3$	0	0	1	7	7	9	1.46	GCE=GICE=SFCE
31.			PP$_4$	1	2	0	6	5	10	3.10	GCE=GICE=SFCE
32.	Process	Training & Evaluation Process	TEP$_1$	0	0	1	7	7	9	1.46	GCE=GICE=SFCE
33.			TEP$_2$	0	1	2	7	6	8	1.53	GCE=GICE=SFCE
34.			TEP$_3$	0	1	0	7	6	10	2.53	GCE=GICE=SFCE
35.			TEP$_4$	0	0	2	7	7	8	3.05	GCE=GICE=SFCE
36.			TEP$_5$	1	0	2	6	7	8	1.53	GCE=GICE=SFCE
37.			TEP$_6$	0	0	2	7	7	8	3.05	GCE=GICE=SFCE
38.			TEP$_7$	1	0	0	6	7	10	2.53	GCE=GICE=SFCE
39.			TEP$_8$	0	2	1	7	5	9	2.71	GCE=GICE=SFCE
40.	Product	Administrative Product	APr1	3	3	6	4	4	4	0.69	GCE=GICE=SFCE
41.			APr$_2$	1	2	6	6	5	4	4.01	GCE=GICE=SFCE
42.			APr$_3$	0	1	2	7	6	8	1.53	GCE=GICE=SFCE
43.			APr$_4$	1	0	3	6	7	7	2.71	GCE=GICE=SFCE
44.			APr$_5$	1	1	0	6	6	10	1.33	GCE=GICE=SFCE
45.	Product	Managerial Product	MPr$_1$	0	1	1	7	6	9	1.00	GCE=GICE=SFCE
46.			MPr$_2$	0	2	1	7	5	9	2.71	GCE=GICE=SFCE
47.			MPr$_3$	0	2	0	7	5	10	5.30*	**GIACE=SFCE>GCE**
48.	Product	Training Product	TPr$_1$	0	1	0	7	6	10	2.53	GCE=GICE=SFCE
49.			TPr$_2$	0	1	1	7	6	9	1.00	GCE=GICE=SFCE
50.			TPr$_3$	0	2	2	7	5	8	2.19	GCE=GICE=SFCE
51.			TPr$_4$	0	2	2	7	5	8	2.19	GCE=GICE=SFCE

$^{**}\alpha = .01$ and $^*\alpha = .05$; χ^2 = Chi-Square

TEP$_2$; TEP$_4$; TEP$_5$; TEP$_6$; TEP$_7$; TEP$_8$; APr$_1$; APr$_2$; APr$_3$; APr$_4$; APr$_5$; MPr$_1$; MPr$_2$; TPr$_1$; TPr$_2$; TPr$_3$; and TPr$_4$). Thus, H$_o$ stands not accepted for above mentioned two statements whereas H$_o$ stands accepted for above mentioned forty-nine statements of ESIBP.

4.2.3.7.3.1 Effect of Government Colleges of Education on Statementwise Impact of B.Ed. Programme on Principals of Colleges of Education

The government colleges of education have less effect on the impact of B.Ed. programme on principals of colleges of education for one statement of academic & evaluation input (AEI) dimension i.e., AEI$_5$ (Supervise and evaluate the academic work with the help of technology) of Input factor; and one statement of the managerial product (MPr) dimension i.e., MPr$_3$ (Increased collaborations with the community) of Product factor of B.Ed. programme as compared to grant-in-aid colleges of education and self-financed colleges of education (table 4.291).

4.2.3.7.3.2 Effect of Grant-In-Aid Colleges of Education on Statementwise Impact of B.Ed. Programme on Principals of Colleges of Education

The grant-in-aid colleges of education have more effect on the impact of B.Ed. programme on principals of colleges of education for one statement of academic & evaluation input (AEI) dimension i.e., AEI$_5$ (Supervise and evaluate the academic work with the help of technology) of Input factor of B.Ed. programme as compared to self-financed colleges of education and government colleges of education; and one statement of managerial product (MPr) dimension i.e., MPr$_3$ (Increased collaborations with the community) of Product factor of B.Ed. programme as compared to government colleges of education (table 4.291).

4.2.3.7.3.3 Effect of Self-Financed Colleges of Education on Statementwise Impact of B.Ed. Programme on Principals of Colleges of Education

The self-financed colleges of education have more effect on the impact of B.Ed. programme on principals of colleges of education for one statement of academic & evaluation input (AEI) dimension i.e., AEI$_5$ (Supervise and evaluate the academic work with the help of technology) of Input factor; and one statement of the managerial product (MPr) dimension i.e., MPr$_3$ (Increased collaborations with the community) of Product

factor of B.Ed. programme as compared to government colleges of education (table 4.291).

Now, the summary of the results, related to the impact of B.Ed. programme on principals of colleges of education with respect to state, university, and type of institution, are pointwise mentioned below:

1. The states of Punjab, Haryana, and Himachal Pradesh have no significant differences on the impact of B.Ed. programme on principals of colleges of education with respect to total scores; three factors (i.e., Input, Process, and Product factors); and eleven dimensions (i.e., mission & vision (MV), academic & evaluation input (AEI), resource input (RI), training input (TI), professional input (PI), administrative & academic process (AAP), professional process (PP), training & evaluation process (TEP), administrative product (APr), managerial product (MPr) and training product (TPr) dimensions) of B.Ed. programme whereas both the states of Himachal Pradesh and Haryana have significantly more effect than that of the state Punjab on the impact of B.Ed. programme on principals of colleges of education with respect to one factor (i.e., Context factor) and one dimension (i.e., programme objectives (PO) dimension) of B.Ed. programme.

2. The states of Himachal Pradesh, Haryana, and Punjab have statementwise significant differences on the impact of B.Ed. programme on principals of colleges of education with respect to three statements i.e., increases employment opportunities (PO_4), ensure availability of modern learning facilitates in classrooms (RI_2), and organization of simulated teaching for developing teaching skills (TEP_3) of B.Ed. programme.

3. All three types of institutions i.e., the government, grant-in-aid, and self-financed colleges of education have no significant differences on the impact of B.Ed. programme on the Principals with respect to total scores; all the four factors (i.e., Context, Input, Process, and Product factors); and all the twelve dimensions (i.e., mission & vision (MV), programme objectives (PO), academic & evaluation input

(AEI), resource input (RI), training input (TI), professional input (PI), administrative & academic process (AAP), professional process (PP), training & evaluation process (TEP), administrative product (APr), managerial product (MPr) and training product (TPr) dimensions) of B.Ed. programme.

4. The government, grant-in-aid, and self-financed colleges of education have statementwise significant differences in the effect on the impact of B.Ed. programme on principals of colleges of education with respect to two statements i.e., supervise and evaluate the academic work with the help of technology (AEI_5) and increased collaborations with the community (MPr_3) of B.Ed. programme.

5. Both the state and type of institution independently as well as together have no significant effect on the impact of B.Ed. programme on principals of colleges of education with respect to total scores; all the four factors (i.e., Context, Input, Process, and Product factors); and all the twelve dimensions (i.e., mission & vision (MV), programme objectives (PO), academic & evaluation input (AEI), resource input (RI), training input (TI), professional input (PI), administrative & academic process (AAP), professional process (PP), training & evaluation process (TEP), administrative product (APr), managerial product (MPr) and training product (TPr) dimensions) of B.Ed. programme whereas the state independently has significant and type of institution independently has no significant effect respectively but both the state and type of institution together have no significant effect on the impact of B.Ed. programme with respect to one factor (i.e., Context factor) of B.Ed. programme.

6. The state government universities and private universities have no significant differences on the impact of B.Ed. programme on principals of colleges of education with respect to total scores; all the four factors (i.e., Context, Input, Process, and Product factors); and all the twelve dimensions (i.e., mission & vision (MV), programme objectives (PO), academic & evaluation input (AEI), resource input (RI), training input (TI), professional input (PI), administrative & academic process (AAP), professional process (PP), training & evaluation process

(TEP), administrative product (APr), managerial product (MPr) and training product (TPr) dimensions) of B.Ed. programme.

7. The self-financed colleges of education affiliated to state government universities and private universities have no significant differences on the impact of B.Ed. programme on principals of colleges of education with respect to total scores; all the four factors (i.e., Context, Input, Process, and Product factors); and all the twelve dimensions (i.e., mission & vision (MV), programme objectives (PO), academic & evaluation input (AEI), resource input (RI), training input (TI), professional input (PI), administrative & academic process (AAP), professional process (PP), training & evaluation process (TEP), administrative product (APr), managerial product (MPr) and training product (TPr) dimensions) of B.Ed. programme.

8. The state government universities and private universities have statementwise significant differences on the impact of B.Ed. programme on principals of colleges of education with respect to one statement i.e. increased the focus on getting admissions (APr_1) of B.Ed. programme.

Conclusion

Similar to these results Gupta (2019) found that student-teachers favours increased duration of teaching internship. Contrary to this Sao and Behera (2016) found that the B.Ed. student-teachers differ significantly and Sushma (2016) found that teacher educators differ significantly in their attitude towards two years B.Ed. programme with respect to the type of institution. Adhikary (2017) also found teacher trainees were dissatisfied with the curriculum distribution of the two-year B.Ed. programme, whereas Khan (2017) found both pupil teachers and teacher educators showed more unfavorable experiences towards two years B.Ed. Program.

Next, the analysis of institutional data has been done to study the impact of B.Ed. programme on various aspects related to the institution.

4.3 **Impact of B.Ed. Programme on (i) Admission of Students, (ii) Utilization of Institutional Resources; and (iii) Nature of Post, (iv) Work Load, (v) Experience and (vi) Qualification of Teacher Educators; and (vii) Financial Management and (viii) Accreditation of the Institutions**

To find the answers related to the various points corresponding to the third research question i.e.

How does the B.Ed. programme impact the admission of students, utilization of institutional resources; and nature of the post, workload, experience, and qualification of teacher educators; and financial management and accreditation of the institutions?

The investigator collected the data from teacher educators, principals of colleges of education, and through the institutional data report. This data was analyzed and pointwise answers are reported below:

4.3.1 Impact of B.Ed. Programme on Admission of Students

To show the impact of two years B.Ed. programme on the admission of students in colleges of education, the detail of percentage of students admitted in the different type of institutions/colleges of education (TOI) from the year 2013 to 2018 with respect to state and the university was collected and is given in table 4.292.

Table 4.292 depicts that out of the colleges of education selected for the present study, one government college of education (GCE), one grant-in-aid college of education (GIACE), and three self-financed colleges of education (SFCE) affiliated to state government universities (SGU) of Punjab; two self-financed colleges of education affiliated to two private universities (PU) of Punjab; one government college of education, one grant-in-aid college of education and two self-financed colleges of education affiliated to state government universities of Haryana; and one self-financed college of education affiliated to one private university of Haryana observed a decrease in the number of students admitted in B.Ed. programme immediately after the implementation of two years of B.Ed. programme. Also, it has been observed that one grant-in-aid college of education and one self-financed college of education affiliated to state government universities of Punjab; two self-financed colleges of education

affiliated to two private universities of Punjab; and one self-financed college of education affiliated to private universities of Haryana were struggling to fill their 100% seats till 2018.

Table 4.292

Detail of Admission of Students in different Type of Institution w. r. t. State and University

Sr. No.	State	University	TOI	Yearwise Admission of Students in Percentage					
				2013	2014	2015	2016	2017	2018
1		SGU	GCE	100	100	100	100	100	100
2			GIACE	100	100	**74**	**60**	**56**	**66**
3			SFCE	100	100	**62**	**88**	100	100
4		SGU	GCE	99.33	100	**99.33**	**93**	**97**	**99**
5	PB		GIACE	100	100	100	100	100	100
6			SFCE	100	100	**73.33**	100	100	100
7		SGU	GCE	100	100	100	100	100	100
8			GIACE	71.43	100	100	100	100	100
9			SFCE	100	100	**84**	**74**	**95**	**89**
10		PU	SFCE	100	100	**63**	**41**	**59**	**29**
11		PU	SFCE	100	100	**22**	**48**	**52**	**63**
12		SGU	GCE	100	100	100	100	100	100
13	HP		GIACE	100	100	100	100	100	100
14			SFCE	100	100	100	100	100	100
15		SGU	GCE	100	100	100	100	100	100
16			GIACE	100	100	100	100	100	100
17			SFCE	90	93.33	**100**	93.33	**95**	100
18		SGU	GCE	100	100	100	100	**92**	100
19	HR		GIACE	100	100	100	100	100	**97**
20			SFCE	100	100	**51**	**87**	**94**	100
21		SGU	GCE	100	100	100	100	100	100
22			GIACE	100	100	100	100	100	100
23			SFCE	100	100	100	100	100	100
24		PU	SFCE	100	100	**25**	**21**	**40**	**75**
Total				**98.09**	**99.46**	**88.09**	**88.59**	**91.02**	**92.70**

Note -   Based on the information provided by college officials or from the college website
TOI-Type of Institution; PB-Punjab, HP-Himachal Pradesh, and HR-Haryana; SGU-State Government University and PU-Private University; GCE-Government Colleges of Education, GIACE-Grant-In-Aid Colleges of Education, and SFCE-Self-Financed Colleges of Education

In totality, there is a negative impact of B.Ed. programme on the admission of students i.e. admission of students in 2013 was 98.09%; admission of students in 2014 was 99.46%; in 2015 was 88.09%; in 2016 was 88.59%; in 2017 was 91.02%, and in 2018 was 92.70%.

The fact is that the allotment of students to colleges of education affiliated with state government universities (SGU) is through the process of central counseling conducted by their respective state government universities. Therefore, the first preference of aspiring candidates is always government colleges of education (GCE), the second is grant-in-aid colleges of education (GIACE) and the last is self-financed colleges of education (SFCE) due to the difference in their fee structure. Government colleges of education have a very low fee structure as compared to grant-in-aid colleges of education and self-financed colleges of education because all types of finances are provided by the government. It has been observed that the location and reputation of the college of education also influence their admissions.

On the other hand, the fee structure of self-financed colleges of education is very high as compared to government colleges of education and grant-in-aid colleges of education because all types of finances are to be generated by the self-financed colleges of education by themselves. grant-in-aid colleges of education got 95% grant from the state government to manage their finance-related matters, therefore, their fee structure is a little higher than government colleges of education but lower than self-financed colleges of education.

It has been observed that a few colleges of education offered applicants to get enrolled in B.Ed. programme in their college under the category of non-attending students to fill all seats. It means that an applicant is supposed to pay the fee of the B.Ed. programme in such colleges and may not come to the college regularly to study, but he/she is allowed to appear in the final exams of B.Ed. programme. After the implementation of two years B.Ed. programme, a few colleges have followed this practice of non-attending admissions in their colleges. They are offering the option of non-attending admission to locals or other state applicants or applicants residing at faraway places to fill their 100% seats. This practice has spoiled the objective of quality improvement in teacher education.

Therefore, it has been observed that there is no impact of two years B.Ed. programme on the admission of students in government colleges of education, mild to adverse impact in the case of grant-in-aid colleges of education, and adverse impact on self-financed colleges of education. 100% seats get filled in all government colleges of education comfortably, almost every grant-in-aid colleges of education filled approximately 100% of its seats with additional

efforts e.g. advertisement, etc. and many self-financed colleges of education manage to fill almost 50% of their seats with rigorous efforts for admission.

The year-wise detail of percentage of admission of students w. r. t. state, university, and type of institution/colleges of education is given in the table below:

Table 4.293

Comparison of Admission of Students w. r. t. State, University, and Types of Institution

Sr. No.	Category	Type	Yearwise Admission of Students in Percentage				
			2014	2015	2016	2017	2018
1.	State	PB	100	83.56	83.14	86.79	87.33
		HP	100	100	100	100	100
		HR	98.67	90.81	91.70	93.41	96.44
2.	University	SGU	99.42	93.32	94.25	95.45	97.56
		PU	100	36.67	36.67	50.33	49.00
3.	TOI	GCE	100	99.78	99.00	98.43	99.86
		GIACE	100	95.27	92.73	92.00	94.86
		SFCE	98.55	73.36	79.12	86.00	86.88

Note -   Based on the information provided by college officials or from the college website
TOI-Type of Institution; PB-Punjab, HP-Himachal Pradesh, and HR-Haryana; SGU-State Government University and PU-Private University; GCE-Government Colleges of Education, GIACE-Grant-In-Aid Colleges of Education, and SFCE-Self-Financed Colleges of Education

The analysis of data in table 4.293 reveals that the number of admissions decreased from 2014 to 2018.

➢ Out of the total admission of students in all types of the institution of Punjab, the admission of students decreases from 100% to 87.33% from 2014 to 2018.

➢ Out of the total admission of students in all types of the institution of Himachal Pradesh, the admission of students remains 100% from 2014 to 2018.

➢ Out of the total admission of students in all types of the institution of Haryana, the admission of students decreases from 98.67% to 96.44%.

➢ Out of the total admission of students in all types of the institution affiliated to state government universities, the admission of students' decreases from 99.42% to 97.56%.

➢ Out of the total admission of students in all types of the institution affiliated to private universities, the admission of students' decreases from 100% to 49.00%.

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- Out of the total admission of students in all government colleges of education, the admission of students decreases from 100% to 99.86%.

- Out of the total admission of students in all grant-in-aid colleges of education, the admission of students decreases from 100% to 94.86%.

- Out of the total admission of students in all self-financed colleges of education, the admission of students decreases from 98.55% to 86.88%.

Therefore, the decrease in student admission is more in Punjab as compared to Haryana and Himachal Pradesh; private universities as compared to state government universities; and self-financed colleges of education as compared to grant-in-aid and government colleges of education.

4.3.2 Impact of B.Ed. Programme on Utilization of Institutional Resources

The following table 4.294 shows the detail of resources available in the different types of institutions as per the norms of the National Council for Teacher Education (NCTE).

Table 4.294

Detail of Resources Available in Different Type of Institutions

Sr. No.	Resources	Type of Institution		
		GCE	GIACE	SFCE
1	Library	✓	✓	✓
2	Multipurpose Hall	✓	✓	✓
3	Psychology Resource Centre	✓	✓	✓
4	Social Science Resource Centre	✓	✓	✓
5	Science Math Resource Centre	✓	✓	✓
6	Computer Lab including Language Lab	✓	✓	✓
7	ICT resource centre (Educational Technology Lab)	✓	✓	✓
8	Curriculum Laboratory	✓	✓	✓
9	Arts & Craft and Work Experience/Resource Centre	✓	✓	✓
10	Health and Physical Education Resource Centre	✓	✓	✓
11	Yoga Room	✓	✓	✓
12	Multipurpose playfield/Playground	✓	✓	✓

Note - *Based on the information provided by college officials or from the college website*
GCE-Government Colleges of Education, GIACE-Grant-In-Aid Colleges of Education, and SFCE-Self-Financed Colleges of Education

All type of institutions/colleges of education makes available all type of resources i.e. setting up of different types labs (Library, Multipurpose Hall, Psychology Resource Centre, Social

Science Resource Centre, Science/Math Resource Centre, Computer Lab including Language Lab, ICT resource centre (Educational Technology Lab), Curriculum Laboratory, Arts & Craft and Work Experience/Resource Centre, Health and Physical Education Resource Centre, Yoga Room and Multipurpose playfield/Playground as per NCTE norms. It is observed that students and teachers utilize these resources as per the timetable and its requirements. It is also directly linked to the number of students admitted in the institutes/colleges of education i.e. if the number of students is more, then the utilization of resources is maximum and vice versa.

In short, table 4.294 depicts that as per the norms of NCTE for an impact of two-year B. Ed. programme, the utilization of institutional resources by the institution is as per the requirement of the number of students admitted in the institutions/colleges of education (CE).

4.3.3 Impact of B.Ed. Programme on the Nature of Post of Teacher Educators

To study the impact of B.Ed. programme on nature of post, details related to the percentage of teacher educators in different categories of the post were collected from the office or website of institution/colleges education and shown in table 4.295.

Table 4.295 depicts that there is approximately 50% regular staff available in all types of institutes/colleges of education and the rest 50% maybe guest faculty, part-time faculty, contractual faculty, ad-hoc faculty, and vacant posts. The reason for the same is that there is a ban on the recruitment of regular teachers in government and grant-in-aid institutes/colleges of education by the government. It is also due to the financial problems as a consequence of the lesser number of admissions in the self-financed institutes/colleges of education.

It is found that out of the total faculty required in all type of institutions, 49.25% of faculty is regular, 3.23% of faculty is part-time, 14.19% of faculty is contractual, 3.87% of faculty is guest faculty, 3.44% of faculty is ad-hoc and 26.02 % of posts are vacant (table 4.295).

Therefore, as a consequence of the impact of two years B.Ed. programme, it is found that in most of the cases, a regular post is not being created or offered to the candidates (Table 4.295).

Table 4.295

Percentage of Teacher Educators in different Categories of Nature of Post in various Type of Institution w. r. t. State and University

Sr. No.	State	University	TOI	Regular	Part-Time	Contract	Guest Faculty	Ad-hoc	Vacant	Total
1			GCE	37.50	18.75	0.00	25.00	0.00	18.75	100
2		SGU	GIACE	50.00	0.00	50.00	0.00	0.00	0.00	100
3			SFCE	62.50	6.25	0.00	0.00	12.50	18.75	100
4			GCE	56.00	0.00	44.00	0.00	0.00	0.00	100
5		SGU	GIACE	17.50	0.00	50.00	0.00	5.00	27.50	100
6	PB		SFCE	83.33	0.00	0.00	0.00	4.17	12.50	100
7			GCE	42.11	10.53	0.00	47.37	0.00	0.00	100
8		SGU	GIACE	50.00	0.00	16.67	0.00	33.33	0.00	100
9			SFCE	37.50	0.00	6.25	0.00	12.50	43.75	100
10		PU	SFCE	43.75	0.00	12.50	0.00	0.00	43.75	100
11		PU	SFCE	56.25	0.00	12.50	0.00	0.00	31.25	100
12			GCE	31.25	6.25	0.00	31.25	12.50	18.75	100
13	HP	SGU	GIACE	43.75	0.00	0.00	0.00	0.00	56.25	100
14			SFCE	6.25	0.00	0.00	0.00	0.00	93.75	100
15			GCE	31.25	12.50	37.50	0.00	0.00	18.75	100
16		SGU	GIACE	75.00	0.00	0.00	0.00	0.00	25.00	100
17			SFCE	95.24	0.00	0.00	0.00	4.76	0.00	100
18			GCE	25.00	12.50	31.25	0.00	0.00	31.25	100
19	HR	SGU	GIACE	56.25	0.00	0.00	0.00	0.00	43.75	100
20			SFCE	31.25	12.50	12.50	0.00	0.00	43.75	100
21			GCE	43.75	0.00	0.00	0.00	12.50	43.75	100
22		SGU	GIACE	62.50	6.25	0.00	0.00	0.00	31.25	100
23			SFCE	93.75	6.25	0.00	0.00	0.00	0.00	100
24		PU	SFCE	25.00	0.00	6.25	0.00	0.00	68.75	100
	Total			49.25	3.23	14.19	3.87	3.44	26.02	100

Note - Based on the information provided by college officials and from the college website

Table 4.296

Comparison of Teacher Educators in different Categories of Nature of Post w. r. t. State, University, and Type of Institution

Sr. No.	Category	Type	Regular	Part-Time	Contract	Guest Faculty	Ad-hoc	Vacant	Total
1.	State	PB	46.93	2.63	22.81	5.70	4.82	17.11	100
		HP	27.08	2.08	0.00	10.42	4.17	56.25	100
		HR	57.67	4.23	7.41	0.00	1.59	29.10	100
2.	University	SGU	50.12	3.60	14.63	4.32	3.84	23.50	100
		PU	41.67	0.00	10.42	0.00	0.00	47.92	100
3.	TOI	GCE	39.52	8.06	17.74	14.52	3.23	16.94	100
		GIACE	49.40	0.60	21.43	0.00	3.57	25.00	100
		SFCE	56.07	2.31	4.62	0.00	3.47	33.53	100

Note - Based on the information provided by college officials and from the college website
TOI-Type of Institution; PB-Punjab, HP-Himachal Pradesh, and HR-Haryana; SGU-State Government University and PU-Private University; GCE-Government Colleges of Education, GIACE-Grant-In-Aid Colleges of Education, and SFCE-Self-Financed Colleges of Education

From table 4.296, it is found that

➢ Out of the total faculty required in all type of institution of Punjab, 46.93% of the faculty is regular, 2.63% of the faculty is part-time, 22.81% of the faculty is contractual, 5.70% of the faculty is guest faculty, 4.82% of the faculty is ad-hoc and 17.11 % of the posts are vacant.

➢ Out of the total faculty required in all type of institution of Himachal Pradesh, 27.08% of the faculty is regular, 2.08% of the faculty is part-time, 0% of the faculty is contractual, 10.42% of the faculty is guest faculty, 4.17% of the faculty is ad-hoc and 56.25% of the posts are vacant.

➢ Out of the total faculty required in all type of institution of Haryana, 57.67% of the faculty is regular, 4.23% of the faculty is part-time, 7.41% of the faculty is contractual, 0% of the faculty is guest faculty, 1.59% of the faculty is ad-hoc and 29.10% of the posts are vacant.

➢ Out of the total faculty required in all type of institution of state government universities, 50.12% of the faculty is regular, 3.60% of the faculty is part-time, 14.63% of the faculty is contractual, 4.32% of the faculty is guest faculty, 3.84% of the faculty is ad-hoc and 23.50% of the posts are vacant.

- Out of the total faculty required in all type of institution of private universities, 41.67% of the faculty is regular, 0% of the faculty is part-time, 10.42% of the faculty is contractual, 0% of the faculty is guest faculty, 0% of the faculty is ad-hoc and 47.92% of the posts are vacant.

- Out of the total faculty required in all government colleges of education, 39.52% of the faculty is regular, 8.06% of the faculty is part-time, 17.74% of the faculty is contractual, 14.52% of the faculty is guest faculty, 3.23% of the faculty is ad-hoc and 16.94% of the posts are vacant.

- Out of the total faculty required in all grant-in-aid colleges of education, 49.40% of the faculty is regular, 0.60% of the faculty is part-time, 21.43% of the faculty is contractual, 0% of the faculty is guest faculty, 3.57% of the faculty is ad-hoc and 25.00% of the posts are vacant.

- Out of the total faculty required in all self-financed colleges of education, 56.07% of the faculty is regular, 2.31% of the faculty is part-time, 4.62% of the faculty is contractual, 0% of the faculty is guest faculty, 3.47% of the faculty is ad-hoc and 33.53% of the posts are vacant.

It has been found from table 4.296, more teacher educators are regular in Haryana as compared to Punjab and Himachal Pradesh; more posts of teacher educators are vacant in Himachal Pradesh as compared to Haryana and Punjab; more teacher educators are regular in state government universities as compared to private universities, and more TEs are regular as well as more post of teacher educators are vacant in self-financed colleges of education as compared to grant-in-aid colleges of education and government colleges of education.

4.3.4 Impact of B.Ed. Programme on Work Load of Teacher Educators

To study the impact of B.Ed. programme on the workload of faculty members, details related to the load allotted to faculty members was collected from the faculty members or office of institution/colleges education and shown in table 4.297.

Table 4.297

Work Load (Per Week) of Teacher Educators of different Type of Institution

Sr. No.	TOI	Work Load Per Week
1	GCE	14 to 25 Lectures and Teaching Internship Duty
2	GIACE	12 to 24 Lectures and Teaching Internship Duty
3	SFCE	16 to 30 Lecture and Teaching Internship Duty

Note - Based on the information provided by college officials or faculty members
TOI-Type of Institution; GCE-Government Colleges of Education, GIACE-Grant-In-Aid Colleges of Education, and SFCE-Self-Financed Colleges of Education

Due to an increase in the duration of B.Ed. programme from one year to two years, now there is a need of handling two sessions of B.Ed. students simultaneously i.e. the numbers of students have been increased/doubled. There is an increase in academic, non-academic, evaluation, and supervision responsibilities of the teacher educators. Also, the availability of a fewer number of regular staff in institutes/colleges of education has lead to the increase in the workload of teacher educators and Principals. The workload of teacher educators also increases during the school internship period to a great extent because teacher educators rush from one institutes/colleges of education to another after taking theory classes in their respective college to internship schools to mentor and supervise the class lessons and field engagement activities of teacher interns and vice versa. Therefore, in short, it is obvious that the workload of teacher educators and principals of colleges of education has increased a lot at present due to the change in B.Ed. course duration from one to two years.

It is found from table 4.297 that as an impact of two years B.Ed. programme, it is found that faculty of self-financed colleges of education have 25% and 20% more workload as compared to grant-in-aid and government colleges of education respectively.

4.3.5 Impact of B.Ed. Programme on Experience of Teacher Educators

The detail relating to the teaching experience of teacher educators was collected from the teacher educators or office of institution/colleges education to study the impact of B.Ed. programme on the experience of teacher educators and shown in table 4.298.

After the retirement of the teacher educators and Principals, no regular recruitments of eligible candidates are made against the vacant posts in the government and grant-in-aid colleges of education due to the ban imposed by the government on the recruitment of teachers. In self-financed colleges of education, the management is not ready to recruit eligible candidates as a result of financial crises due to less admission of students.

Table 4.298

Range of Experience of Teacher Educators of different Type of Institution

Sr. No.	TOI	Experience of TEs (In Years)
1	GCE	1 to 33 years
2	GIACE	1 to 31 years
3	SFCE	0.5 to 21 years

Note -   Based on the information provided by college officials or faculty members
             TOI-Type of Institution; GCE-Government Colleges of Education, GIACE-Grant-In-Aid Colleges of
             Education, and SFCE-Self-Financed Colleges of Education

Also, there is a shortage of eligible candidates as per NCTE norms because of the duration of M.Ed. programme is also increased from one year to two years since 2015, and a few of the candidates after completing B.Ed. course are interested to join M.Ed. programme. Therefore, guest faculty, part-time faculty, contractual faculty, and ad-hoc faculty with qualifications M.Ed. or Ph.D. (in Physics, Chemistry, History, etc.) or B.Ed. only are appointed as ad-hoc teachers. So, these teachers lack in their professional adeptness and they are not effectively oriented or trained as future teachers as per the vision, mission, and requirement of two years B.Ed. programme by NCTE.

Table 4.298 shows that as a result of two years B.Ed. Programme, 57.14% professionally more experienced faculty are working in grant-in-aid colleges of education than self-financed colleges of education and 47.62% professionally more experienced in government colleges of education than self-financed colleges of education.

4.3.6 Impact of B.Ed. Programme on Qualification of Teacher Educators

The details related to the qualification of teacher educators were collected from the teacher educators or office/website of institution/colleges education to study the impact of B.Ed. programme on the qualification of teacher educators as is shown in table 4.299.

Table 4.299

Percentage of Teacher Educators with Qualification in different Type of Institution w.r.t. State and University

Sr. No.	State	University	TOI	As Per Norms	Not as per Norms
1			GCE	61.54	38.46
2		SGU	GIACE	50.00	50.00
3			SFCE	84.62	15.38
4			GCE	100.00	0.00
5		SGU	GIACE	62.07	37.93
6	PB		SFCE	76.19	23.81
7			GCE	69.57	30.43
8		SGU	GIACE	75.00	25.00
9			SFCE	33.33	66.67
10		PU	SFCE	44.44	55.56
11		PU	SFCE	36.36	63.64
12			GCE	61.54	38.46
13	HP	SGU	GIACE	71.43	28.57
14			SFCE	14.29	85.71
15			GCE	61.54	38.46
16		SGU	GIACE	60.00	40.00
17			SFCE	76.19	23.81
18			GCE	81.82	18.18
19	HR	SGU	GIACE	44.44	55.56
20			SFCE	22.22	77.78
21			GCE	55.56	44.44
22		SGU	GIACE	54.55	45.45
23			SFCE	62.50	37.50
24		PU	SFCE	80.00	20.00
Total				61.52	38.48

Note -   Based on the information provided by college officials or from the college website or faculty member
TOI-Type of Institution; PB-Punjab, HP-Himachal Pradesh, and HR-Haryana; SGU-State Government University and PU-Private University; GCE-Government Colleges of Education, GIACE-Grant-In-Aid Colleges of Education, and SFCE-Self-Financed Colleges of Education

Table 4.299 shows that, out of the available staff in different type of institution, the qualification of 61.54% to 100% teacher educators of government colleges of education, 50.00% to 75.00% teacher educators of grant-in-aid colleges of education & 33.33% to 84.62% teacher educators of self-financed colleges of education affiliated to state government universities, and 33.33% to 44.44% teacher educators of self-financed colleges of education affiliated to private universities of Punjab; 61.54% teacher educators of government colleges of education, 71.43% teacher educators of grant-in-aid colleges of education and 14.29% teacher educators of self-financed colleges of education of Himachal Pradesh; and 55.56% to 81.82% teacher educators of government colleges of education, 44.44% to 60.00% teacher educators of grant-in-aid colleges of education & 22.22% to 80.00% teacher educators of self-financed colleges of education affiliated to state government universities, and 80.00% teacher educators of self-financed colleges of education affiliated to private universities of Haryana are as per norms and 0% to 38.46% teacher educators of government colleges of education, 25.00% to 50.00% teacher educators of grant-in-aid colleges of education & 15.38% to 66.67% teacher educators of self-financed colleges of education affiliated to state government universities, and 55.56% to 63.64% teacher educators of self-financed colleges of education affiliated to private universities of Punjab; 38.46% teacher educators of government colleges of education, 28.57% teacher educators of grant-in-aid colleges of education and 85.71% teacher educators of self-financed colleges of education of Himachal Pradesh; and 18.18% to 44.44% teacher educators of government colleges of education, 40.00% to 55.56% teacher educators of grant-in-aid colleges of education & 20.00% to 77.78% teacher educators of self-financed colleges of education affiliated to state government universities, and 20.00% teacher educators of self-financed colleges of education affiliated to private universities of Haryana.

Table 4.299 shows that, as a whole, there is a negative impact of B.Ed. programme on the qualification of teacher educators. Out of the total faculty recruited in all types of institutions, 61.52% of faculty fulfills the qualification norms and 38.48% of faculty does not fulfill the qualification norms.

It is because there is a shortage of eligible candidates as per NCTE norms because of the duration of M.Ed. programme has also increased from one year to two years since 2015 and a very few candidates after completing B.Ed. course are interested to join M.Ed. programme. Also, to pay less

to the teachers, all type of institutes/colleges of education recruit guest faculty; part-time faculty; contractual faculty; and ad-hoc faculty with very few Ph.D.'s without even in education, most of the teachers with M.Ed., or a few with only M.A./M.Sc. and without teacher training, or M.Ed. and sometimes only B.Ed. i.e., qualification not related to the field of teacher education/other than teacher education. Therefore, it has been observed that there is a compromise on the qualification of teachers in all types of institutions/colleges of education, due to shortage of eligible candidates or to run the institutes/colleges of education, in two year B.Ed. programme at a low cost.

Table 4.300

Comparison of Qualification of Teacher Educators w. r. t. State, University, and Type of Institution

Sr. No.	Category	Type	As Per Norms	Not as per Norms
1.	State	PB	64.89	35.11
		HP	44.12	55.88
		HR	61.19	38.81
2.	University	SGU	57.06	42.94
		PU	48.00	52.00
3.	TOI	GCE	71.43	28.57
		GIACE	59.23	40.77
		SFCE	56.25	43.75

Note - Based on the information provided by college officials or from the college website or faculty member
TOI-Type of Institution; PB-Punjab, HP-Himachal Pradesh, and HR-Haryana; SGU-State Government University and PU-Private University; GCE-Government Colleges of Education, GIACE-Grant-In-Aid Colleges of Education, and SFCE-Self-Financed Colleges of Education

From table 4.300, it is found that

➢ Out of the total faculty required in all types of institutions of Punjab, 64.89% of the faculty is as per qualification norms and 35.11% of the faculty is not as per qualification norms.

➢ Out of the total faculty required in all types of institutions of Himachal Pradesh, 44.12% of the faculty is as per qualification norms and 55.88% of the faculty is not as per qualification norms.

➢ Out of the total faculty required in all types of institutions of Haryana, 61.19% of the faculty is as per qualification norms and 38.81% of the faculty is not as per qualification norms.

- Therefore, Punjab exceeds Haryana and Himachal Pradesh in the percentage of appointment of faculty as per norms of NCTE.

- Out of the total faculty required in all types of institutions of state government universities, 57.06% of the faculty is as per qualification norms and 42.94% of the faculty is not as per qualification norms.

- Out of the total faculty required in all types of institutions of private universities, 48.00% of the faculty is as per qualification norms and 52.00% of the faculty is not as per qualification norms.

- Therefore, the percentage of faculty appointments, as per qualification norms of NCTE, is higher in state government universities than private universities.

- Out of the total faculty required in all government colleges of education, 71.43% of the faculty is as per qualification norms and 28.57% of the faculty is not as per qualification norms.

- Out of the total faculty required in all grant-in-aid colleges of education, 59.23% of the faculty is as per qualification norms and 40.77% of the faculty is not as per qualification norms.

- Out of the total faculty required in all self-financed colleges of education, 56.25% of the faculty is as per qualification norms and 43.75% of the faculty is not as per qualification norms.

- Therefore, in government colleges of education qualified faculty as per norms of NCTE is more in percentage than in grant-in-aid and self-financed colleges of education.

4.3.7 Impact of B.Ed. Programme on Financial Management

Financial management covers the sources of finance for the institution. The purpose was to explore the impact in terms of increase or decrease in finance generation. The details related to financial resources were collected from the office of the institutions/colleges of education to study the impact of B.Ed. programme on financial resources as is shown in table 4.301.

Table 4.301

Financial Resources of different Type of Institutions

Sr. No.	TOI	Student Fee	Donation	Any Other (Grants from Government)
1	GCE	✓	✗	100%
2	GIACE	✓	✗	95%
3	SFCE	✓	✗	0%

Note - Based on the information provided by college officials or from the college website
TOI-Type of Institution; PB-Punjab, HP-Himachal Pradesh, and HR-Haryana; SGU-State Government
University and PU-Private University; GCE-Government Colleges of Education, GIACE-Grant-In-Aid
Colleges of Education, and SFCE-Self-Financed Colleges of Education

It has been observed from table 4.301 that in the case of government colleges of education, there is no impact on the financial management of two years B.Ed. progrmme because all the funds are provided by the government and 100% seats are filled. In the case of grant-in-aid colleges of education, there is a slightly negative impact of two years B.Ed. progrmme on the financial management because 95% grant is provided by the government against regular teachers only; approximately 100% seats are filled and management themselves has to pay to guest/part-time/contractual/ad-hoc faculty. In the case of self-financed colleges of education, there is a significant negative impact on the financial management of two years B.Ed. progrmme because they have to manage all the finances from the money collected from students as fee and their resources although less than or equal to 50% seats are filled and managements themselves have to pay to guest /part-time/contractual/ad-hoc faculty.

Therefore, there is a negative impact of two years B.Ed. programme on the financial management of self-financed colleges of education as compared to government and grant-in-aid colleges of education.

4.3.8 Impact of B.Ed. Programme on Accreditation of the Institutions

The information related to accreditation of the institutions/colleges of education by NAAC was collected from the office of the institutions/colleges of education or website of NAAC to study the impact of B.Ed. programme on accreditation of the institutions/colleges of education and

accreditation detail of different type of institution, selected for the present study, w. r. t. state and universities are shown in table 4.302.

Table 4.302

Detail of NAAC Accreditation of different Type of Institution w. r. t. State and University

Sr. No.	State	University	TOI	Year of Accreditation	Grade	Cycle of Accreditation
1			GCE	2006 and **2017**	B++ and **B**	2
2		SGU	GIACE	2005 and 2014	B+ and A	2
3			SFCE	-	-	0
4			GCE	2004 and **2017**	A and **A**	2
5		SGU	GIACE	2003	B++	1
6	PB		SFCE	2009	A	1
7			GCE	2004 and **2016**	B++ and **B**	2
8		SGU	GIACE	2004	B	1
9			SFCE	-	-	0
10		PU	SFCE	2006	B	1
11		PU	SFCE	2012	B	2
12			GCE	2003, 2009 and **2016**	B++, B and **A**	3
13	HP	SGU	GIACE	-	-	0
14			SFCE	2011	B	1
15	HR	SGU	GCE	2004 and 2010	B++ and B	2
16		SGU	GIACE	2004 and 2014	A+ and A	2
17			SFCE	2011	B	1
18			GCE	2015	B	1
19		SGU	GIACE	-	-	0
20	HR		SFCE	-	-	0
21			GCE	2004 and **2016**	C++ and **B**	2
22		SGU	GIACE	2004 and 2014	B++ and A	2
23			SFCE	2013	B	1
24		PU	SFCE	2015	B	1

Note -   Based on the information provided by college officials/from the college website and NAAC website
TOI-Type of Institution; PB-Punjab, HP-Himachal Pradesh, and HR-Haryana; SGU-State Government University and PU-Private University; GCE-Government Colleges of Education, GIACE-Grant-In-Aid Colleges of Education, and SFCE-Self-Financed Colleges of Education

It is observed from table 4.302 that out of the selected colleges as a sample of the present study majority of institutes/colleges of education have not tried for the accreditation/reaccreditation of their institute by the NAAC after the implementation of two years B.Ed. programme except for five institutes/colleges of education (one each government college of education affiliated to three state government universities of Punjab; one government college of education affiliated to state

government universities of Himachal Pradesh; and one government college of education affiliated to state government universities of Haryana). After reaccreditation, out of the five institutes/colleges of education, the grade of one each government college of education affiliated to two state government universities of Punjab goes down; one government college of education affiliated to one state government universities of Panjab remains the same, and government college of education affiliated to state government universities of Himachal Pradesh as well as one government college of education affiliated to one state government universities of Haryana goes up.

Therefore, there is a mixed impact of two years B.Ed. programme on the accreditation of the institutions/colleges of education.

Table 4.302 depicts that only 20.83% (5 out of 24 institutions) of the institutions tried for the accreditation/reaccreditation after the implementation of two years B.Ed. programme. 8.33% or 40% (2 out of 24 or 2 out of 5) of the institutions got improved grade, 8.33% or 40% (2 out of 24 or 2 out of 5) of the institutions got the lower grade, and 4.17% or 20% (1 out of 24 or 1 out of 5) of the institutions got the same grade from NAAC.

Now, the summary of the results, related to the impact of B.Ed. programme on the admission of students, utilization of institutional resources; nature of the post, workload, experience, and qualification of teacher educators; financial management and accreditation of the institutions/colleges of education admission, are pointwise mentioned as follows:

It has been found that -

1. there is a negative impact of B.Ed. programme on the admission of students in all types of institutions as a whole i.e. decreases from 98.09% in 2013 to 92. 07% in 2018;

2. the utilization of institutional resources by the institution is as per the requirement of the number of students admitted in all type of institutions;

3. there is approximately 50% regular staff available in all type of institutions and the rest 50% maybe guest faculty, part-time faculty, contractual faculty, ad-hoc faculty, and vacant posts;

4. faculty of self-financed colleges of education have 25% and 20% more workload as compared to grant-in-aid and government colleges of education respectively;

5. 57.14% professionally more experienced faculty are working in grant-in-aid colleges of education than self-financed colleges of education and 47.62% professionally more experienced in government colleges of education than self-financed colleges of education;

6. out of the total faculty recruited in all type of institutions, 61.52% of the faculty fulfills the qualification norms and 38.48% of faculty does not fulfill the qualification norms;

7. percentage of faculty appointment, as per qualification norms of NCTE, is higher in Punjab than Haryana and Himachal Pradesh; state government universities than private universities; and government colleges of education than grant-in-aid and self-financed colleges of education;

8. there is a negative impact of two years B.Ed. programme on the financial management of SFCE self-financed colleges of education as compared to government and grant-in-aid colleges of education; and

9. 8.33% or 40% (2 out of 24 or 2 out of 5), 8.33% or 40% (2 out of 24 or 2 out of 5), and 4.17% or 20% (1 out of 24 or 1 out of 5) of institutions got the improved, lower and same grade from NAAC respectively.

Conclusion

Similar to these results Kamboj (2015) found more stress in Adhoc teacher educators; Banu and Maheshwari (2019), Mahajan and Rana (2017) found that pupil-teachers in government were not satisfied whereas that of self-financed were satisfied with two-year B.Ed. programme. Whereas Rajput (2016) concluded that duration of two years for B.Ed. programme is logical and necessary for better education as perceived by various stakeholders.

In a nutshell, this *'Chapter-IV of Results and Discussion'* dealt with the following sequentially;

1. Impact of B.Ed. programme on stakeholders i.e., pupil teachers, teacher educators, and principals of colleges of education with the application of descriptive and inferential statistics.

2. Context, Input, Process, and Product factors of B.Ed. programme as contributors of the impact of B.Ed. programme on stakeholders i.e. pupil teachers, teacher educators, and principals of colleges of education with the application of inferential statistics.

3. Opinions of teacher educators towards the IBP with the application of descriptive statistics.

4. Impact of B.Ed. programme on stakeholders i.e., (a) pupil teachers, (b) teacher educators, and (c) principals of colleges of education w. r. t. (i) state, (ii) university, and (iii) type of institution with the application of descriptive and inferential statistics.

5. Impact of B.Ed. programme on Institutions with the application of descriptive statistics.

The next chapter i.e., *'Chapter V'* deals with the **Summary and Conclusions** related to the present research work. In this chapter, after the summary of the first three chapters, conclusions of the research, limitations of research, recommendations of research, and suggestions for further research are mentioned.

CHAPTER V

SUMMARY AND CONCLUSIONS

The present chapter deals with a summary of the present research, conclusions, limitations, recommendations, and suggestions for further research.

5.1 SUMMARY

The present curriculum of B.Ed. programme is designed in such a manner that it enhances the capabilities among teacher trainees for sustainability in modernization and social change. It develops competency and understanding for social cohesion, international understanding, and protection of human rights and rights of the child. The curriculum of B.Ed. programme develops the attitude that teachers become the committed teachers for the profession and effective teachers in a normal and inclusive setup.

The present B.Ed. programme helps in developing rational thinking and scientific temper among the pupil-teachers. A teacher needs to be very sensitive to the emerging issues of environment cleanliness, population explosion, gender equality, legal literacy, critical understanding, and use of ICT for imparting curriculum, and yoga education. Before entering the profession, a teacher must have an understanding of all the school-based activities.

The two-year B.Ed. programme provides interdisciplinary perspectives in education. It develops the habit of reflective teaching among the student teachers. Teacher trainees understand life skills, reading and reflecting on texts, use of drama and art in education through this programme. The full curriculum is application-based. There is a place for value and peace education in the curriculum.

The up-gradation of Bachelors of Education degree to two years from the session 2015-2016 has led to a great debate among teachers across the country. Most of the concerned authorities are in favor of this decision. Though, the aspiring teachers are still struggling to accept this. Many factors prove that the two-year B.Ed. programme is more effective than that of one year. To begin with, the curriculum has been expanded to include some more topics, which was not possible to do with the one-year program owning to the shortage of time. The second and most beneficial aspect of this reform is the extended training period. In

the previous B.Ed. programme, only 40 days (or six weeks and four days) were assigned for the training of the students, but the new B.Ed. programme will facilitate the students with an internship of approximately six months. This will imbibe the desired skill-set among the would-be teachers, which in turn would further raise the quality of teachers. Another advantage of the extended course time is that there will be less pressure on the government to provide job opportunities to lakhs of candidates every year. It will bridge the skewing gap between the demand and supply of the teachers. It intends to bring integrated development of the trainee-teachers touching cognitive and non-cognitive aspects of their behavior.

The present B.Ed. programme is primarily practical oriented. It enhances the competency on school-based practical activities, internal assessment, evaluation, an internship in teaching, practice of micro-teaching skills, community-based activities, activities relating to work experiences, innovative activities related to health and physical education. It provides scope for pedagogical analysis of the content/ units included in its curriculum.

Further, this reform makes the B.Ed. programme as a choice-based programme for those who only want to enter the teaching profession. This two-year B.Ed. programme will be able to produce well-trained teachers, who will have a positive impact on the students and guide them with effective teaching models. These students further will contribute to society by their expertise. Through this programme both the teachers and the students will have clarity of the contents and will be able to soar high in their respective careers. This will help in the overall growth of the country. In this way, it can be concluded that two years Bachelors of Education course can enhance the quality of the teaching profession.

In the present era, the scientific breakthrough is there in all aspects of our life i.e. agriculture, industrialization, urbanization, information and communication technology, electronics, automobile, antibiotics, and digital technology. As a result of it, our society and lifestyle get significantly changed from capitalized to industrial; and industrial to the knowledge society. This standard shift, to a great extent, also, affects teacher education.

The teaching profession is now under a great challenge. Teachers should have to adapt to the latest and improvised strategies, techniques, approaches, and methods of teaching as per the requirement of student's learning.

Recently, the curriculum of teacher education throughout the country has been considerably altered. It is as per the contemporary global changes, socioeconomic, cultural, and political changes along with the advancement of technology. A uniform curriculum for B.Ed. programme (enrichment of the B.Ed. curriculum by reducing theoretical frameworks; including internship program and field engagement practicum activities by emphasizing more on pedagogical aspects of education and increasing the duration of programme from one year to two years) has been implemented throughout the country as per NCTE regulations, 2014 framed based on Justice Verma commission's report, NCF-2005 and NCFTE-2009 (cf. Mishra and Koner, 2019).

There is an urgent need for a quality curriculum that leads to the empowerment of the pupil teachers and the teacher educators, by developing their professional competencies and skills. The well-organized teacher education curriculum leads to an overall change in the education system as per the requirement of all the policy changes and developments in the field of teacher education. There is a requirement for humane and professional teachers with their full faith in the constructivist approach to teach at all levels of education in India. Humane and professional teachers make the learners learn the content happily in the classrooms without any major reforms and will achieve the aim of education i.e. a happy child constructs his knowledge happily.

According to NCTE, the specific aim of two-year B.Ed. programme is to get the expected behavioral changes among the pupil teachers. The only reason for NCTE behind this is to bring the quality of teachers to India. NCTE aims to shape excellent teachers by their teaching strategy/methodology; psychological techniques; philosophical and social concepts through two years B.Ed. programme. NCTE has also suggested the organization of various extracurricular activities i.e. awareness programme and co-curricular activities for the facilitation of students and teachers. NCTE has also emphasized the imparting of technical knowledge to pupil teachers and the development of teaching professionals for educational institutions of India for quality improvement in the Indian education system.

Program evaluation is defined as the systematic collection of information about the activities, characteristics, and outcomes of programs to make judgments about the program, improve

program effectiveness, and/or inform decisions about future programming (Patton, 1997, p.23).

The structure for the evaluation of the two-year B.Ed. program in the present research project was based on the broad and organized model of evaluation given by Stufflebeam (1971) and Stufflebeam & Shinkfield (1985). The Stufflebeam evaluation model includes four evaluation parameters i.e., Context, Input, Process, and Product (CIPP). Context evaluation guides for the selection of objectives and assignment of priorities. Input evaluation guides for the selection of program strategies and resources to realize program objectives. Process evaluation guides in monitoring the program implementation. Product evaluation guides for the termination, persistence, or amendment of the program (Worthen, Sanders, &Fitzpatrick, 1997; Finch & Crunkiton, 1993).

CIPP model of the evaluation was created by Daniel Stufflebeam in the 1960s. Its focus is to link evaluation with programme decision-making. It is an effort to make evaluation directly relevant to the needs of decision-makers during the phases and activities of a programme. It is recommended as a framework to systematically guide the concept, design, implementation, and assessment of a programme. It provides feedback and judgment for continuous improvement of the programme effectiveness.

Significance of the Study

Education was a part of Indian culture dominated by religious practices. In this sense, India was an educationally developed country long back. The teachers or Gurus in those ages had their ways of expanding their knowledge and there appears to be a sublime continuity and similarity in their ways and mediums during ancient and medieval periods. For instance, the monitorial system, conferences, discussions, debates, and seminars, which existed in ancient India, continued in medieval India too. However, under the political control of Europeans in India, things took a different shape. Wood's Despatch for the first time introduced the pupil-teacher system leading to the certification and employment of teachers. India's exposure to the west and her hunger to gain knowledge and appreciate its achievements led to an altogether new and scientific approach to education.

The reason which highlights the importance of this study is the change in the duration of the B.Ed. programme. Till 2015, B.Ed. programme was of one-year duration. In one year B.Ed.

programme, the theory was given more weightage than the practical components. The teaching practice was the weakest part of the programme. The pupil teachers were forced to teaching situations in the real classroom without much understanding of the school system and different techniques of teaching. Supervision of teaching practice was also a challenge because of lack of time with teacher educators and indifferent attitude of school teachers towards practicing teachers. All such issues were raised by educationists at various levels as one-year B.Ed. programme was not able to produce competent and professional teachers as per the need of the time. NCTE in 2015 changed this one-year B.Ed. programme into two years B.Ed. programme with the focus to develop more humane and competent professionals. The focus was to overcome the deficiencies or limitations of one year programme like lack of time, less duration of teaching practice, less emphasis on practical components, less engagement of school and society, etc. The researcher himself has experienced some limitations of one year B.Ed. programme while teaching or supervising the teacher training procedures. The lack of trained teachers, short duration of the training period, much emphasis on basic subjects as compared to skills/practical courses, are few to mention. In addition to these, there is no emphasis on the sensitization of pupil teachers towards society and inclusion practices in schools. It was also observed that after completing the teacher training most of the teachers are having another profession also. As they are somehow in two professions simultaneously, their attention is divided and therefore they have no complete dedication to the teaching profession. Their professionalism is questionable and therefore it's very urgent to study the product dimension of B.Ed. programme to understand and reflect whether B.Ed. programme is producing humane, competent, and professional teachers or not? If not, then where is the problem? Such reflections somehow motivated the researcher to assess the B.Ed. programme. But with starting of the two years B.Ed. programme, the researcher also felt the dire need to evaluate the two years programme for its effectiveness. The research intent was to see whether two years B.Ed. programme is developing professional and humane teachers as per the vision of NCTE. The studies conducted earlier were mostly focused on one year programme and consulted pupil teachers only. No comprehensive study on evaluation of the impact of two years B.Ed. programme was found. In such a scenario, the researcher decided to consider all the potential stakeholders like pupil

teachers, teacher educators, and principals of TEIs. In addition to this, the change of duration of the course also has an impact on admissions, faculty intake, resource creation, etc. So, the researcher decided to conduct a comprehensive and holistic study to evaluate the impact of two years B.Ed. programme.

Although, NEP 2019 emphasized the 4 years Integrated Teacher preparation programme, yet it maintained that 2-years B.Ed. programme will continue till 2030 and after 2030 institutions offering a 4years programme will be continuing with a 2 years programme as well. In such conditions, it's imperative to evaluate the impact of 2 years B.Ed. programme for its better implementation. As per the policy of the government, in near future, the focus will shift to move teacher education programmes in multidisciplinary colleges and universities. Therefore, research is required to strengthen the 2 years programme by evaluating it through the eyes of different potential stakeholders from the practical field like pupil teachers, teacher educators, and principals of TEIs.

One of the other observations is regarding the employment focus of the programme as mentioned in the curriculum guidelines proposed by NCTE. It was found that the professional enhancement input varies with the type of institution and state. In some institutions, it is academic and regular whereas in some it is modular or workshop-based. Moreover, the focused areas also vary like personal development and grooming, TET preparation, interview focus, and communication skills, and life skills. The impact of these inputs has not been evaluated earlier and that too with respect to their success rate. So, the researcher decides to analyze the professional enhancement practices being given in different institutions and also to suggest the best inputs having a better success rate. It was also observed that the change of duration of B.Ed. programme from one year to two years has resulted in a decrease in admissions and graduates prefer another profession. So, it's imperative to study the impact of two years B.Ed. programme at the institutional level with respect to intake of students, faculty availability and resources procurements, etc. Therefore, the study intends to contribute significantly by considering all the aspects of two years B.Ed. programme both quantitatively and qualitatively.

Further, this research study would guide different stakeholders like pupil teachers, teacher educators, and principals of TEI; and policymakers at the institution, university, state, and

national level for the betterment of B.Ed. programme. In due course of time, it will also guide the 4 years integrated teacher training programme for their effective operation.

The findings of the study can guide the institutions, principals, teacher educators, and pupil teachers on various dimensions of context, input, process, and output depending on the type of institutions. It guides the universities to see the holistic picture of procedures being adopted in affiliated colleges. At the state level, it notifies the best practices, inequalities in procedures, and resource availability, and forwards the state to take appropriate steps. At the national level, the study intends to alert the policymakers and statutory bodies to reflect on best practices, limitations; and inspect the context, input, process, and product dimension; and correspondingly to plan orientation sessions, seminars, workshops, etc. to improve these dimensions across the country for enhancing the effectiveness of two years B.Ed. programme.

To conclude, the research study is based on researchers' personal experiences as a school teacher and teacher educator; places due considerations on NCTE guidelines; considers what has been explored and what is left; analyses research gap; intends to contribute significantly and holistically to solve the existing problems or limitation in two years B.Ed. programme; guides to continue with best practices; and wishes to guide the policymakers at different levels to improve the effectiveness of two years B.Ed. programme which will further assist in better implementations of 4 Years integrated teacher training programmes.

Statement of Problem

Keeping in view the rationale and needs of the present context the statement of the problem was formulated as "Impact of B.Ed. Programme on Pupil Teachers, Teacher Educators, Principals and Institutions: An Evaluative Study".

Objectives

1. To study the impact of the B.Ed. programme on (a) Pupil Teachers, (b) Teacher Educators and (c) Principal).

2. To study the impact of B.Ed. programme on (a) Pupil Teachers, (b) Teacher Educators and (c) Principals with respect to (i) State, (ii) University and (iii) Type of Institution.

3. To study the impact of B.Ed. programme on (i) admission of students, (ii) utilization of institutional resources; and (iii) nature of the post, (iv) workload, (v) experience and (vi)

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qualification of Teacher Educators; and (vii) financial management and (viii) accreditation of the Institutions.

The first and second objectives have been explored by keeping in view the Context, Input, Process, and Product factors of the modified CIPP model.

Research Questions

1. What is the impact of B.Ed. programme on (a) Pupil Teachers, (b) Teacher Educators and (c) Principals)?

2. What is the impact of B.Ed. programme on (a) Pupil Teachers, (b) Teacher Educators and (c) Principals) with respect to (i) State, (ii) University and (iii) Type of Institution/Colleges of Education studied separately or in combinations?

3. How does the B.Ed. programme impact the (i) admission of students, (ii) utilization of institutional resources; and (iii) nature of the post, (iv) workload, (v) experience and (vi) qualification of Teacher Educators; and (vii) financial management and (viii) accreditation of the Institutions?

Delimitations

The present study was delimited to

1. Three northern states of India i.e., Punjab (PB), Himachal Pradesh (HP), and Haryana (HR).

2. Government colleges of education (GCE), grant-in-aided colleges of education (GIACE), and self-financed colleges of education (SFCE) one each affiliated to three state government universities (SGU) of the state of Punjab; one state government university (SGU) of the state of Himachal Pradesh; and three state government universities (SGU) of the state of Haryana.

3. Self-financed colleges of education (SFCE) one each affiliated to two private universities (PU) of the state of Punjab and one private university (PU) of the state of Haryana.

4. Evaluation of impact in ex-post-facto conditions and not in pre-post experimental situations.

5. Pupil teachers studying in the final semester of session 2017-19 of B.Ed. programme.

Research Method

The present study was evaluative in nature. It was a field study and conducted by using the descriptive survey method and triangulation approach. It involved the collection & analysis of both quantitative and qualitative data. The quantitative data in the present research was collected through scales, and qualitative data was collected through interviews, focused on the impact of B.Ed. programme on pupil teachers, teacher educators, and principals of colleges of education. So, the present research was mixed-method research using impact scales and interviews. The research tried to support quantitative outcomes with qualitative findings and develop an entire understanding of the impact of B.Ed. programme. The collection and analysis of both types of data i.e., quantitative and qualitative; were done simultaneously and independently.

Population

The population of the present study was comprised of pupil teachers (students studying in the final semester of two year B.Ed. programme), teacher educators (teachers appointed in colleges of education and teaching selected pupil teachers), and principals from colleges/departments of education affiliated to universities situated in the states of Punjab, Himachal Pradesh, and Haryana.

Sample

The sample of the present study comprised of pupil teachers, teacher educators, and principals from institutions/colleges of education located in three northern states of India i.e. Punjab, Himachal Pradesh, and Haryana. The Chandigarh region has been included in the state of Punjab. As the data were to be collected towards the end of the 4th semester (exit phase of B.Ed. programme), it was challenging for the researcher to collect data from Jammu and Kashmir region also because of time paucity as well as other academic and geographical constraints.

In total, 1436 pupil teachers, 120 teacher educators, and 24 principals were selected from 24 institutions/colleges of education affiliated to 7 state universities and 3 private universities situated in the states of Punjab, Himachal Pradesh, and Haryana.

Tools

The researcher developed the following four scales to evaluate the impact of B.Ed. progamme on Pupil Teachers, Teacher Educators, Principals and institutes/colleges of education:

❖ Evaluation Scale for Impact of B.Ed. Programme Scale on Pupil Teachers (ESIBP-PTs).

❖ Evaluation Scale for Impact of B.Ed. Programme Scale on Teacher Educators (ESIBP-TEs)

❖ Evaluation Scale for Impact of B.Ed. Programme Scale on Principals of Colleges of Education (ESIBP-PCE)

❖ Institutional Data Report (IDR) to study the impact of B.Ed. programme on the admission of students, utilization of institutional resources; nature of the post, workload, experience & qualification of teacher educators; financial management and accreditation of the institutions/colleges of education.

Procedure

The whole procedure of the study is presented below;

• Development and standardization of Evaluation Scale for Impact of B.Ed. Programme (ESIBP) on Pupil Teachers (PTs); Teacher Educators (TEs); and Principals of Colleges of Education (PCE).

• Development of Institutional Report Data Form.

• The orientation of the study and ESIBP to the Respondents (i.e., PTs, TEs, and PCE) and Collection of Data.

• Conduction of Informal Interviews of TEs and PCE.

Statistical Techniques

✓ To achieve the first objective i.e. to study the impact of B.Ed. programme (IBP) on the stakeholders ((a) Pupil Teachers, (b) Teacher Educators and (c) Principals of Colleges of Education); frequencies, frequency distributions, percentages, mean, standard deviation, synthetic indexes, t-test, linear regression, and analysis of interviews (qualitative analysis) were used.

✓ To achieve the second objective i.e. to study the IBP on the stakeholders ((a) Pupil Teachers, (b) Teacher Educators and (c) Principals of Colleges of Education) with respect

to (i) State, (ii) University and (iii) Type of Institution; ANOVA, t-test, and χ^2 test were used.

✓ To achieve the third objective i.e. to study the impact of B.Ed. programme on (i) admission of students, (ii) utilization of institutional resources; and (iii) nature of post, (iv) workload, (v) experience and (vi) qualification of teacher educators; and (vii) financial management and (viii) accreditation of the institutions, analysis of institutional data report (quantitative analysis) and analysis of interviews (qualitative analysis) were used.

5.2   CONCLUSIONS

Based on the interpretations and discussions mentioned in the preceding *'Chapter IV – Results and Discussion';* the following conclusions are drawn with respect to the objectives and research questions/hypotheses of the study:

1. Impact of B.Ed. Programme on Pupil Teachers, Teacher Educators and Principals

There is a significant impact of B.Ed. programme on pupil teachers, teacher educators, and principals. The 96.52% of the pupil teachers perceived significant positive impact whereas the 3.48% perceived negative significant impact of B.Ed. programme. It has been found that the 95% of the teacher educators perceived the significant positive impact and the 5% perceived the significant negative impact of B.Ed. programme. It has been found that the 100% of the principals of colleges of education perceived the significant positive impact of B.Ed. programme.

A. Impact on Pupil Teachers

i.   The pupil teachers perceived that the two-year B.Ed. programme develops them into competent professionals and links school knowledge with community life. It includes all activities in the academic calendar, allows easy access to library resources, organizes rigorous teaching internship for 14 weeks in schools, and different professional activities for enhancing professional capacities. It allows sharing of real-life experiences in the classroom, planning field visits to understand the school system, training through constructive feedback during simulated teaching practice,

consultation of library resources for content enrichment, and use of various formative assessment strategies. It has been also found that the two-year B.Ed. programme develops cooperative skills, collaborative skills, instructional planning skills, evaluation skills, and skills essential for dealing with diverse problems among the pupil teachers. Pupil teachers also perceived that the two-year B.Ed. programme has less emphasis on the development of inclusive competencies to deal with diverse students and on the employment opportunities for prospective teachers. It has less focus on diverse projects, modern learning facilities for teaching, use of e-learning resources in classroom teaching, inputs for the preparation of teacher eligibility tests, conduction of community projects in collaboration with NGOs, development of subject-specific competencies through learning resource centers, and use of pre-decided rubrics in assessment.

ii. All the factors and dimensions show a significant positive impact on pupil teachers. The context factor of B.Ed. programme shows maximum impact among all the four factors, i.e., context, input, process, and product, on the pupil teachers. The descending order of impact of factors is **Context (3.24) > Product (3.21) > Input (3.13) > Process (3.08).** The mission & vision, training input, curriculum transaction process, and inclusive competencies product dimensions have maximum positive impact whereas the programme objectives, resource input, training process, and teaching & evaluation competencies product dimensions have a minimum positive impact. Further, the multiple regression analysis reveals that the process factor of B.Ed. programme is the strongest contributor whereas the context factor of B.Ed. programme is the weakest contributor to the impact of B.Ed. programme on the pupil teachers.

B. Impact on Teacher Educators

i. The two years B.Ed. programme has increased workload, academic and non-academic responsibilities, pressure/new responsibilities relating to the admission of students, supervisory responsibilities, and evaluation work of

teacher educators. In addition to these, it has also increased pedagogical competencies, professional competencies, initiatives for the employability of pupil teachers, collaboration with colleagues, social competencies, and assignments designing competencies of teacher educators. 71% of the teacher educators are in favor of two years B.Ed. programme whereas 82% of the teacher educators think that fear of losing the job, using more latest ICT resources, strongly connect with practicing schools and various social organizations, wider social network, and more participation in social work are the additional impacts of B.Ed. programme on them.

ii. The factorwise and dimensionwise analysis shows the significant positive impact of all the four factors i.e., context, input, process, and product factors on the teacher educators. The descending order of impact of factors is **Context (3.22) > Input (3.18) = Process (3.18) > Product (3.04).** The mission & vision, resource input, pedagogical process, and resource consultation product dimensions have maximum positive impact whereas the programme objectives, evaluation input, training process, and social responsibilities product dimensions have a minimum positive impact. The multiple regression analysis reveals that the product factor of B.Ed. programme is the strongest contributor whereas the context factor of B.Ed. programme is the weakest contributor to the impact of B.Ed. programme on the teacher educators.

C. Impact on Principals of Colleges of Education

i. The two years B.Ed. programme increased administrative responsibilities, pressure/new responsibilities relating to the admission of students, relational and supervisory responsibilities, and challenges regarding the availability of a required number of teacher educators of the principals of colleges of education. In addition to these, it has also increased management competencies, professional competencies, initiatives for the employability of pupil teachers, and skills to manage everything effectively of principals of colleges of education. 92% of the principals of colleges of education are in

favor of two years B.Ed. programme and think that lack of co-operation from schools related to various field-based activities and school internship, focus on maintaining good relations with internship school authorities, community organizations, and NGOs during the sessions, practical based teaching and activity-oriented teaching-learning approach, and established more contacts with outside academic experts/professionals are the additional impacts of B.Ed. programme.

ii.   The factorwise and dimensionwise analysis shows the significant positive impact of all the four factors i.e., context, input, process, and product factors on the principals. The descending order of impact of factors is **Process (3.24) > Input (3.16) > Context (3.11) > Product (3.05).** The mission & vision, professional input, administrative & academic process, training & evaluation process, and training product dimensions have maximum positive impact whereas the programme objectives, academic & evaluation input, professional process, and administrative product dimensions have a minimum positive impact. The multiple regression analysis reveals that the process factor of B.Ed. programme is the strongest contributor whereas the context factor of B.Ed. programme is the weakest contributor to the impact of B.Ed. programme on principals of colleges of education.

2. **Impact of B.Ed. Programme on Pupil Teachers, Teacher Educators and Principals with respect to State, University and Type of Institution**

There is a significant difference in the impact of B.Ed. programme on the pupil teachers with respect to state, university, and type of institution but the non-significant difference in impact is found on the teacher educators and principals.

A. **Impact of B.Ed. Programme on Pupil Teachers with respect to State, University and Type of Institution**

i.   The B.Ed. programme in the states of Punjab and Haryana have significantly more impact on the pupil teachers than that of the state of Himachal Pradesh.

The impact of Input, Process, and Product factors of B.Ed. programme in both the states of Punjab and Haryana is significantly more than that of the state of Himachal Pradesh whereas all the three states (i.e., the states of Punjab, Himachal Pradesh, and Haryana) do not have significant differences in the impact of Context factor of B.Ed. programme on the pupil teachers. In both the states of Punjab and Haryana, the impact of academic input, resource input, training input, professional input, curriculum transaction process, professional process, training process, academic process, evaluation process, professional competencies product, and teaching & evaluation competencies product dimensions, is more on the pupil teachers as compared to Himachal Pradesh. Whereas all the three states (i.e., the states of Punjab, Himachal Pradesh, and Haryana) do not differ significantly in their effect on the impact of mission & vision, programme objectives, and inclusive competencies product dimensions of B.Ed. programme on the pupil teachers.

ii. In private universities, the impact of B.Ed. programme on the pupil teachers is significant than the state government universities. In private universities, there is more emphasis on holistic development of prospective teachers, development of inclusive competencies, practical aspects of teaching and learning process, rigorous teaching internship, link school knowledge with community life, increase employment opportunities, planning academic calendar of activities, field-based assignments, diverse projects, easy accessibility of library resources, availability of modern learning facilities for teaching, teaching skill inputs through simulated teaching, organization of fieldwork in schools, rigorous and planned teaching internship, extra inputs for state/center level teacher eligibility test, enhancement of professional capacities, collaborative partnership with community and NGOs, provision of remedial measures as per needs of the students, use of e-resources in classroom teaching, and evaluation and assessment strategies.

iii. There is a significant impact of B.Ed. programme on the pupil teachers in grant-in-aid and self-financed colleges of education as compared to

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government colleges of education. In both grant-in-aid and self-financed colleges of education, more focus is on programme objectives, professional process, teaching process, evaluation process, professional competencies product, and teaching & evaluation competencies product dimensions. In self-financed colleges of education, there is more emphasis on resource inputs and professional inputs dimensions of B.Ed. programme.

iv. The interaction effect of state and type of institution reveals that there is more impact of B.Ed. programme on the pupil teachers studying in self-financed colleges of education in Punjab whereas more impact is found on the pupil teachers studying in grant-in-aids colleges of both the states of Haryana and Himachal Pradesh.

B. Impact of B.Ed. Programme on Teacher Educators with respect to State, University and Type of Institution

i. There is a non-significant difference in the impact of B.Ed. programme on the teacher educators with respect to state, university, and type of institution. So, the teacher educators perceived more or less similar impact of two-year B.Ed. programme on themselves. Further analysis shows that the teacher educators of the state of Himachal Pradesh perceived that the two-year B.Ed. programme has reduced their workload, whereas the teacher educators of the state of Haryana perceived that the two-year B.Ed. programme develops subject-specific competencies through the use of different learning resource centers, develops competencies to use online resources in the teaching-learning process, and has increased non-academic responsibilities.

ii. The teacher educators of the state government universities perceived that the two-year B.Ed. programme allows them to prepare instructional inputs through consulting library resources as compared to the teacher educators of the private universities. Whereas, the teacher educators of the private universities perceived that the two-year B.Ed. programme develops inclusive competencies to deal with diverse students, skills to use rubrics for evaluation, improves organizational skills, and develops social skills to organize

community projects in collaboration with NGOs as compared to the teacher educators of the state government universities.

iii. The teacher educators of grant-in-aid colleges of education perceived that the two-year B.Ed. programme emphasis more on modern learning facilities, whereas the teacher educators of self-financed colleges of education perceived that the two-year B.Ed. programme emphasis more on teaching internships, field-based assignments, giving employability enhancement inputs, organizing workshops and seminars, and promoting partnerships with community and NGOs.

C. **Impact of B.Ed. Programme on Principals with respect to State, University and Type of Institution**

i. There is a non-significant difference in the impact of B.Ed. programme on the principals with respect to state, university, and type of institution. Although, there is more emphasis on context factor in both the states of Himachal Pradesh and Haryana than Punjab, yet these differences are insignificant.

ii. The principals of the state government universities perceived that the two-year B.Ed. programme has increased the focus on getting admissions as compared to the principals of private universities.

iii. The principals of the government, grant-in-aid, and self-financed colleges of education have perceived no significant difference in the impact of B.Ed. programme on them. The principals of the grant-in-aid colleges of education perceived that the two-year B.Ed. programme emphasizes the use of technology to supervise and evaluate the academic work as compared to the principals of both the self-financed and government colleges of education. The principals of both the grant-in-aid and self-financed colleges of education perceived that the two-year B.Ed. programme has increased the collaborations with the community as compared to the principals of and government colleges of education.

3. The impact of the B.Ed. Programme on the admission of students, utilization of institutional resources, nature of the post, workload, experience, qualification of TEs, financial management, and accreditation of the Institutions

i. There is a negative impact of B.Ed. programme on the admission of students as admissions has dropped in all states, universities, and the type of colleges. The maximum decrease is in the state of Punjab (reduces from 100% to 87.33%) than HR (reduces from 98.67% to 96.44%) as compared to HP (remains 100%) from the year 2014 to 2018. In private universities, the admission reduces from 100% to 49.00% from the year 2014 to 2018.

ii. The utilization of institutional resources by the institution/colleges of education is as per the requirement of the number of students admitted to the institution/colleges of education in two-year B. Ed. Programme.

iii. It has been found that more teacher educators are regular in the state of Haryana as compared to both the states of Punjab and Himachal Pradesh; more posts of teacher educators are vacant in the state of Himachal Pradesh as compared to both the states of Haryana and Punjab; more teacher educators are regular in the state government universities as compared to the private universities; and more teacher educators are regular as well as more post of teacher educators are vacant in the self-financed colleges of education as compared to the grant-in-aid and the government colleges of education.

iv. The teacher educators of the self-financed colleges of education have more workload as compared to the grant-in-aid and the government colleges of education.

v. Professionally more experienced faculty are working in both the grant-in-aid and government colleges of education than the self-financed colleges of education.

vi. In the state of Punjab 64.89% of the faculty, in the state of Himachal Pradesh 44.12% of the faculty, and in the state of Haryana 61.19% of the faculty is as per qualification norms. In the state government universities, 57.06% of

faculty is as per qualification norms, whereas in the private universities, only 48.00% of faculty is as per qualification norms. In the government colleges of education, 71.43%, in the grant-in-aid colleges of education, 59.23%, and in the self-financed colleges of education, 56.25% of faculty is as per qualification norms.

vii. There is a negative impact of two years B.Ed. programme on the financial management of the self-financed colleges of education as compared to the government and the grant-in-aid colleges of education.

viii. Out of the selected institutions/colleges of education for the present study, only 20.83% of them tried for the accreditation/reaccreditation after the implementation of two years B.Ed. programme; 8.33% got improved grades whereas the same number got the lower grades, and 4.17% got the same grade from National Assessment and Accreditation Council (NAAC) till 2018.

5.3 LIMITATIONS

In the present research study, the researcher encountered the following limitations:

1. The standardization of tools posed a serious challenge as the researcher has to collect a large amount of data from three states covering all types of universities and colleges before the final collection of data.

2. As per the nature of the study, data were to be collected towards the end of the 2-year B.Ed. programme. The researcher found challenges in connecting with the required sample of the pupil teachers, teacher educators, and principals of colleges of education as they were engaged in final exam preparations. Later technological assistance was taken to collect the required data from some of the institutions.

3. The researcher had to visit the same colleges repeatedly to get data forms filled from all the stakeholders.

4. The area of study was wide and contact with the sample was not personal. Therefore, some of the filled data forms were incomplete that led to the recollection of data from more institutions.

5. The researcher has not selected an equal number of private universities like that of state government universities due to time paucity and other constraints.

6. As the data were to be collected towards the end of the 4th semester (exit phase of B.Ed. programme), it was challenging for the researcher to collect data from Jammu and Kashmir region also because of time paucity as well as other academic and geographical constraints.

7. Some of the principals of colleges of education were reluctant to provide the institutional data. So, data was taken from National Assessment and Accreditation Council (NAAC) and official websites.

5.4 RECOMMENDATIONS

The findings of the study reveal that there is an overall positive impact of two-year B.Ed. programme on all the stakeholders i.e., the pupil teachers, teacher educators, and principals of colleges of education. So, the study recommends continuing with the programme till 2030 as also recommended by National Council for Teacher Education (NCTE), New Delhi. But after 2030 only institutions meeting the quality standard should be allowed to continue with the programme because further analysis of findings reveals that the intensity of impact varies with the state, university, and type of institution. So, this research put forth the following recommendations:

1. The findings of the study reveal that the process is the most important factor in determining the impact of B.Ed. programme. So, this study highly recommends orientation and developing awareness of the pupil teachers and teacher educators on process dimensions like pedagogical, professional, evaluation, and training procedures through orientation programmes, workshops, personal mentoring, and seminars.

2. The minimum impact of B.Ed. programme on the pupil teachers is found in Himachal Pradesh. For enhancing the effectiveness of 2-year B.Ed. programme in Himachal Pradesh, the study recommends more focus on planning and implementation of training, employment enhancement, professionalism, and academic procedures.

3. The study recommends the statutory bodies to keep a rigorous check on state government universities and government colleges of education as the pupil teachers of both perceive less impact of B.Ed. programme. The study also recommends the

orientation of all stakeholders in these institutions with suitable and effective induction or orientation programmes at the beginning of the programme.

4.   The increased duration of B.Ed. programme results in a decrease in admissions (of students) in the grant-in-aid and self-financed colleges of education. This has promoted the non–attending culture in some of the institutions of both the states of Haryana and Punjab. The study recommends the making of the admission units uniform throughout a particular state irrespective of the type of institution and also keeping a rigorous check on the non-attending students.

5.   The study highly recommends the regulatory and recruitment bodies to fill the vacant posts of teaching staff to increase the effectiveness of the programme.

6.   The teacher educators are in favor of two years B.Ed. programme as it has increased their pedagogical, professional, social collaboration, and instructional designing competencies. Therefore, two–year B.Ed. programme is effective and should be continued.

7.   The study finally recommends the same recommendations for enhancing the effectiveness of integrated teacher education programmes.

8.   The study also recommends that NCTE should give more flexibility for innovations in 2-year B.Ed. programme.

5.5   SUGGESTIONS

Research is a continuous and ongoing process and there is always space for further studies. The present research put forward the following suggestions for future studies:

1.   Follow-up research can be taken to study the impact of the two-year B.Ed. programme on the pupil teachers after joining the teaching profession.

2.   Further research can be taken by considering the opinions of the pupil teachers towards the two-year B.Ed. progamme with the help of open-ended questions/interviews at the institution, state, and national level.

3.   Research can be conducted to study the impact of the Context, Input, and Process on the Product of B.Ed. programme.

4.   Further research can be conducted at the state and national levels.

5. The study can be conducted to explore the impact of two years M.Ed. programme on the different stakeholders.

6. An experimental study can be taken to explore the effect/impact of the two-year B.Ed. programme on the pupil teachers

7. More researches can be taken to explore the impact of the two-year B.Ed. programme on different aspects of the pupil teachers.

8. Similar research can be conducted to evaluate the effectiveness of integrated teacher education programmes.

9. Further research can be conducted by taking the gender, locale, and qualification of the stakeholders into consideration.

Bibliography

Adaboh, S. (2014). *An evaluation of the bachelor degree in accounting program in a Ghanaian Private University.* Ph.D. thesis, School of Education, Andrews University, Berrien Springs, Michigan, America). Retrieved from https://digitalcommons.andrews.edu/cgi/viewcontent.cgi?article=1176&context=dissertations

Adhikary, A. (2017). A study on the perception of the teacher trainees towards two year B.Ed. programme implemented in the teacher education institutions in Assam. *International Journal of Scientific and Research Publications*, 7(9), 385-388. Retrieved from http://www.ijsrp.org/research-paper-0917.php?rp=P696806

Agustina, N. Q. and Mukhtaruddin, F. (2019).The CIPP model-based evaluation on integrated English learning program at language center.*English Language Teaching Educational Journal (ELTEJ)*, 2 (1), 22-31. Retrieved from http://journal2.uad.ac.id/index.php/eltej/article/view/1043/pdf

Ahmad, I. et al. (2012). An evaluation of the effectiveness of teacher preparation programmes in Khyber Pakhtunkhwa Province, Pakistan. *International Journal of Business and Social Research,* 2(7), 124-131.doi: http://dx.doi.org/10.18533/ijbsr.v2i7.12. Retrieved from https://thejournalofbusiness.org/index.php/site/article/view/124

Ahmad, S., Zulkurnain, N. N. A. & Khairushalimi, F. I. (2016).Assessing the validity and reliability of a measurement model in structural equation modeling (SEM).*British Journal of Mathematics & Computer Science, 15(3)*, 1-8. Retrieved from www.sciencedomain.org

Ambani, M., & Birla, K. (2000).*Report on a policy framework for reforms in education*, Prime Minister's Council on Trade and Industry, New Delhi, Govt. of India,

Andrews, S. (2001). The language awareness of the L2 teacher: Its impact upon pedagogical practice. *Language Awareness, 10 (2 & 3),* 75−90.

Anderson, W. L. (2004). Increasing teacher effectiveness, United Nations Educational, Scientific and Cultural Organisation, Paris.

Angoff, W.H. (1984). *Scales, norms and equivalent scores*.Education Testing Service, Princeton, New Jersey.

Anh, V. T. K. (2018). Evaluation models in educational program: Strengths and weaknesses. *VNU Journal of Foreign Studies*, *34 (2),* 140-150. Retrieved from https://www.researchgate.net/publication/330002563

Aziz, S., Mahmood, M., & Rehman, Z. (2018). Implementation of CIPP Model for Quality Evaluation at School Level: A Case Study. *Journal of Education and Educational Development,* 5(1):189-206. doi: 10.22555/joeed.v5i1.1553. Retrieved from https://files.eric.ed.gov/fulltext/EJ1180614.pdf

Ayers, J. B. (1989).Evaluating workshops and institutes.*Practical Assessment, Research & Evaluation,1(8).*doi: https://doi.org/10.7275/19qd-6345 Retrieved from https://scholarworks.umass.edu/pare/vol1/iss1/8

Babu, B. P., & Raju, T. J. M. S. (2013).Attitude of student teachers towards their profession.*International Journal of Social Science & Interdisciplinary Research*, ISSN 2277-3630 IJSSIR, Vol.2 (1), 1-6. Retrieved from www.indianresearchjournals.com https://www.semanticscholar.org/paper

Bala, R. & Singh, G. (2013).Effect of B.Ed. programme on the teaching competence of prospective teachers in relation to teaching aptitude.*International Multidisciplinary e–Journal, 2 (9),* 39-46. Retrieved from www.shreeprakashan.com

Banu, S. R., & Maheshwari, R. (2019). Problems faced by the student-teachers during two year B.Ed. programme. *Journal of Emerging Technologies and Innovative Research, 6(6), 688-691. Retrieved from www.jetir.org*

Barua, S. (2015).A Study on quality of public and private funded B.Ed. programme in northern region based on perception of teacher trainees with regard to learning enhancement.*Journal of Education and Practice, 6(21),* 121-129. Retrieved from www.iiste.org

Beach, D. S. (1980).*Personnel*. Macmillan, New York, 290.

Behari, A. (1998). Analysis of Teacher Education Curriculum in the context of requisite abilities for effective teaching, *Doctoral dissertation*.CIE, Delhi University.

Bhat, R. L. (2017). A study of teaching effectiveness of prospective teachers in relation to stream and gender.*Amity International Journal of Teacher Education*, 3 (1).

Bhatia, R. (1987). Evaluation of new B. Ed. curriculum in the colleges of education affiliated to the University of Bombay.*Fourth survey of Research in Education*, 1983-88 (Vol. 2, p. 923). New Delhi, India: NCERT.

Cao, L. & Nietfeld, L. J. (2005). Judgment of learning, monitoring accuracy, and student performance in the classroom context.*Current Issues in Educatio*, 8 (4).Retrieved from https://eric.ed.gov/?id=EJ875546.

Cochran-Smith, M. (2001).Constructing outcomes in teacher education: Policy, practice and pitfalls.*Educationpolicy analysis archives*, *9 (11),* 1-36. Retrieved from https://www.researchgate.net/publication/49610037

Çolakoğlu, O. M., Eker, C., Güneri, B., & Akçaalan, M. (2020).Evaluation of English 9th Curriculum with CIPP Model and Structural Equation Modeling.*Karaelmas Journal of Educational Sciences*, 8: 1-9. Retrieved from http://ebd.beun.edu.tr/index.php/KEBD/article/viewFile/230/336

Darling-Hammond, L. (2006).Constructing 21st-Century Teacher Education.*Journal of Teacher Education, 57(3),* 300-314. doi/10.1177/0022487105285962. Retrieved from https://journals.sagepub.com

Darling-Hammond L., Bransford, J., LePage, P., Hammerness, K., & Duffy, H. (2005).*Preparing teachers for a changing world: What teachers should learn and be able to do.* San Francisco: Jossey. Bass.

Dehkordi, M. E. & Talebinezhad, M. R. (2018).A CIPP approach to evaluation of grammar teaching program at a high school in Iran.*Journal of Applied Linguistics and Language Research,* 5 (2): 241-260. Retrieved from file:///C:/Users/Admin/Downloads/832-2584-1-PB.pdf

Diem, K. G. (2002) *Measuring impact of educational programmes, a fact sheet* (New Jersey, The State University of New Jersey). Retrieved from https://njaes.rutgers.edu/pubs/publication.php?pid=fs869

Devi, L. (1988). *Evaluation of the teacher-education programme of Agra University*.Ph.D. thesis, Agra University.

Directorate of Staff Development, (2006).*Transforming teacher development in Punjab: A conceptual framework for quality learning*. Lahore, Directorate of Staff Development, Punjab, Pakistan. Retrieved from https://link.springer.com/chapter/10.1007/978-94-6209-365-2_4

Dixit, M. (2014).Professionalization of Teacher Education.*International Journal of Research (IJR),* 1 (4). Retrieved from https://citeseerx.ist.psu.edu/

Dousti, M., Delkhah, S. & Darvishi, A. (2018).Evaluation of physical education faculty of university of Mazandaran.*Journal of Physical Fitness, Medicine & Treatment in Sports*, 2(2): 1-7. doi: 10.19080/JPFMTS.2018.02.555583. Retrieved from https://juniperpublishers.com/jpfmts/pdf/JPFMTS.MS.ID.555583.pdf

Dwivedi, S. K. & Singh, Y. P.(2012). Impact of pre-service teacher education training on attitude towards teaching of prospective teachers. Retrieved from https://www.researchgate.net/publication/263357254

Edmonton, A. (2001). *An evaluation study of the B. Ed. business education programs in the University of Technology, Jamaica*, Retrieved from Ph.D. thesis, University of Alberta, Canada.

Esgaiar, E. & Foster, S. (2019).Implementation of CIPP model for quality evaluation at Zawia University.*International Journal of Applied Linguistics & English Literature,* 8 (5); 106-115. doi: 10.7575/aiac.ijalel.v.8n.5p.106. Retrieved from http://www.journals.aiac.org.au/index.php/IJALEL/article/view/5918

European Trade Union Committee for Education.(2008). *Teacher Education in Europe.An ETUCE Policy Paper.*Brussels: ETUCE.

Fullan, M. G. (1993). Why teachers must become change agents. *Educational Leadership, 50(6),* 12-17.

Farrell, M; Kerry, T. and Kerry, C. (1995). The blackwell hand book of education, Oxford, U. K., Blackwell Publishers.

Fatima, J. (2010). *A study on evaluation of post-graduate programmes of teacher education in Pakistan*.Ph.D. thesis, University Institute of Education and Research Pir Mehr Ali Shah, Arid Agriculture University, Rawalpindi, Pakistan). Retrieved from http://prr.hec.gov.pk/jspui/bitstream/123456789/965/1/686S.pdf

Field, A. (2009). *Discovering statistics using SPSS*.Sage Publications Ltd., London.

Fitzpatrick, J., Sanders, J., & Worthen, B. (2004). Program evaluation (3rd ed). Boston: MA: Pearson.

Flippo E. B. (1971). *Principle of Management*, New Delhi; McGraw Hill Company.

Garrett, H. E. (2008). *Statistics in Psychology and Education.*Surjeet Publication, New Delhi, India.

Gliem, J. A. & Gliem, R. R. (2003).*Calculating, interpreting, and reporting cronbach's alpha reliability coefficient for likert-type scales.* Midwest Research to Practice Conference in Adult, Continuing, and Community Education. Retrieved fromhttps://scholarworks.iupui.edu/handle/1805/344

Ghani, M. Z., & Zain, W. S. M. (2014).The use of Stufflebeam Model (CIPP) in evaluating the perception of teachers on the implementation of inclusive education in Penang, Malaysia.*Global Journal of Interdisciplinary Social Sciences*, 3(4):7-11. Retrieved from https://www.longdom.org/articles/the-use-of-stufflebeam-model-cipp-in-evaluating-the-perception-of-teachers-on-the-implementation-of-inclusive-education-.pdf

Golla, E. F., de Guzman, E. S., Ogena, E., & Brawner, F. (1998). Teacher preparation in science and mathematics education: A situational analysis. *Science education in the Philippines: Challenges for development, 1*, 41-77. Retrieved from http://www.sciepub.com/reference/112687

Good, C. V. (1973). *Dictionary of Education.* New York: McGraw Hill Book Company.

Gopalan, A. (2015). *Impact of B.Ed. programme on student teachers in developing professional competencies for handling learning disability*.Ph.D. thesis, School of Education, Pondicherry University, Puducherry, India. Retrieved from https://shodhganga.inflibnet.ac.in/handle/10603/225462&http://hdl.handle.net/10603/225462

Gorain, R. (2017). Views of teacher educators towards two-year B.Ed. programme of West Bengal. *International Journal of Interdisciplinary and Multidisciplinary Studies (IJIMS)*, 4 (2), 95-98. Retrieved from http://www.ijims.com

Gujjar, A. A. (2013). *Evaluation of B.Ed. programme and comparison of it's curriculum with B S Education-Professional Area.* Ph.D. thesis, Faculty of Arts and Social Sciences, Northern University, Nowshera, Pakistan. Retrieved from https://pdfs.semanticscholar.org/6ff6/84d392dd0cdb5027234f855f1d64616ed262.pdf

Gupta, S. (2019).Perceptions and experiences of B.Ed. students about internshipand sessionalwork.*MIER Journal of Educational Studies, Trends & Practices*, *9(1),* 109-120. Retrieved from http://www.mierjs.in/ojs/index.php/mjestp/article/view/232

Gupta, A. & Rakwal, R. (2020). A study of the perceptions of teacher trainees towards the two-year teacher education programme being run in India. *Social Education Research, 1(2),* 79-86. doi: 10.37256/ser.122020137. Retrieved from http://ojs.wiserpub.com/index.php/SER/article/view/137

Guskey, T.R. (2000). *Evaluating professional development.*Thousand Oaks, CA: Corwin Press. Retrieved from https://pdo.ascd.org/LMSCourses/PD13OC010M/media/Leading_Prof_Learning_M6_Reading1.pdf

Hakan, K., & Seval, F. (2011). CIPP evaluation model scale: development, reliability and validity. Procedia Social and Behavioral Sciences, 15: 592–599. doi:10.1016/j.sbspro.2011.03.146. Retrieved from https://www.sciencedirect.com/science/article/pii/S1877042811003259

Hébert, Y. (2001). *Panel Discussion: "From Theory into Practice": Teacher Education/Educator Training: Current Trends and future Directions*.Pan-

Canadian Education Research Agenda Symposium Report. Toronto: Canadian Education Statistics Council.

Hemabujan, K. (1983). *A critical study of teacher education at secondary level in Tamil Nadu* (Ph.D. thesis, Chennai University, Tamil Nadu, India). Retrieved from https://shodhganga.inflibnet.ac.in/handle/10603/94024

Hussain, S. (2003).*Input-output analysis of government colleges for elementary teachers in Sargodha division* (Master's thesis, Department of Teacher Education, Allama Iqbal Open University, Islamabad, Pakistan). Retrieved from

Michael, J. D. (1987). *The International Encyclopedia of Teaching and Teacher Education.*Oxford, New York: Pergamon Press.

Mishra, P. & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, *108*(6), 1017-1054.

Nagpal, S. & Kumar, D. (2020). Development and standardization of Constructivist Blended Instructional Paradigm for teacher preparation. *Journal of Critical Reviews*, 7 (18), 1651-1659. doi:10.31838/jcr.07.18.210.

Irvin, J. (1979). Goal-free evaluation: Philosophical and ethical aspects of Michael Scriven's model. *The CEDR Quaterly, 12(3),* 11–14.

Johnson, K.E. and Golombek, P.R. (2002).*Teachers' narrative inquiry as professional development*. Cambridge: Cambridge University Press.

Kamboj, P. K. (2015). Impact of two year B. Ed. programme as stressor among teacher educators in relation to teaching experience and nature of job, *Zenith International Journal of Multidisciplinary Research,*Vol.5 (10), pp. 118-123.

Kasinath, H. M. (2000). Effectiveness of enquiry method of teaching science in fostering science process skills, creativity and curiosity, Perspectives in Education, 16(3), 2002.

Kaur, H. (2008). *Impact of B.Ed. programme on teacher effectiveness, personality, teaching aptitude and attitude towards teaching of prospective teachers.*Ph.D. thesis, Panjab University, Chandigarh, Punjab, India. Retrieved from https://shodhganga.inflibnet.ac.in/handle/10603/80793

Kaur, H. (2008). *Analytical study of change in motivity of B.Ed. students during teacher training programme in Punjab*.M.Ed. dissertation, Punjab University Chandigarh.

Kellaghan, T., & Stufflebeam, D. L. (2003).*International handbook of educational evaluation ,1.* Boston: Kluwer Academic Publishers.

Khan, M. (2017).Implementation of Two year B.Ed. program: Issues and Concerns. *Paripex-Indian Journal of Research.*6(3). 573-576. Retrieved from https://www.researchgate.net/publication/329714694

Khan, S. H.& Saeed, M. (2009).Effectiveness of pre-service teacher education programme (B.Ed.) in Pakistan: Perceptions of graduates and their supervisors'. *Bulletin of Education and Research*, 31 (1): 83-98. Retrieved from https://www.semanticscholar.org/paper/Effectiveness-of-Pre-service-Teacher-Education

Khan, S. H. & Saeed, M. (2010).Evaluating the quality of B.Ed. programme: Students' views of their college experiences.*Teaching and Teacher Education*, 26 (4), 760–766. Retrieved from https://www.sciencedirect.com/science/article/abs/pii/S0742051X09002091

Khan, S. C. (2004).*From practice to policy: Making a difference.* Report prepared for the Teachers' Resource Centre. Karachi, Pakistan. Retrieved from http://trconline.org/wp-content/uploads/2007/12/From_Practice_to_Policy.pdf

Koster, B., & Dengerink, J. J. (2008). Professional standards for teacher educators: how to deal with complexity, ownership and function: Experiences from the Netherlands. *European Journal of Teacher Education, 31*(2), 135-149. doi:10.1080/02619760802000115. Retrieved from http://www.researchgate.net

Kuo, L. H. et al. (2012). An evaluation model of integrating emerging technology into formal curriculum.*International Journal of Education and Information Technologies,* 6 (3): 250-259. Retrieved from https://naun.org/main/NAUN/educationinformation/16-288.pdf

Kurnia, F., Rosana, D., & Supahar, (2017, August).*Developing Evaluation Instrument Based on CIPP Models on The Implementation of Portfolio Assessment.* Paper published online in AIP Conference Proceedings 1868, 080003; https://doi.org/10.1063/1.4995187. Retrieved from https://aip.scitation.org/doi/pdf/10.1063/1.4995187

Kyriazos, T. A., & Stalikas, A. (2018).Applied psychometrics: The steps of scale development and standardization process.*Psychology*, *9,* 2531-2560. doi.org/10.4236/psych.2018.911145

Lal, D. (2016). A Journey of Teacher Education.*International Journal of Peace, Education and Development,* 4(1), 9-17. doi: 10.5958/2454-9525.2016.00002.0. Retrieved from https://www.renupublishers.com/images/article/147376195002.pdf

Lakew, D. M., & Musa, M., G. (2019).Evaluation of outcome-based accounting education and training in selected colleges in West Oromia, Ethiopia. *Business, Management and Education*, 17(1): 1-20. doi: 10.3846/2019.6921. Retrieved from https://journals.vgtu.lt/index.php/BME/article/view/6921

Lawshe, C. H. (1975). A quantitative approach to content validity. Personnel Psychology, 28, 563-575. https://doi.org/10.1111/j.1744-6570.1975.tb01393.x

Mahajan, A., & Rana, S. (2017). Problems faced by pupil-teachers during two year B.Ed. programme, *Journal of Emerging Technologies and Innovative Research (JETIR),* 4 (11). Retrieved from www.jetir.org

Malik, U., & Sindhu, P. (2015). A study of teaching aptitude of B. Ed. pupil teachers in relation to their teaching competency, *Scholarly Research Journal for Humanity Science and English Language,* 2 (11). Retrieved from www.srjis.com.

Martin, R. J. (1994). Multicultural social reconstructionist education: Design for diversity in teacher education. *Teacher Education Quarterly,* 21(3), 77-89.

McBer, H. (2000). *Research into teacher effectiveness: A model of teacher effectiveness.* Retrieved from http://ateneu.xtec.cat/wikiform/wikiexport/_media/formgest/equips_directius/st02/bloc_5/5_rr216investigacio_professors_eficients.pdf

MHRD (2012).*Vision of teacher education in India. Quality and regulatory perspective: Report of the high-powered commission on teacher education constituted by the Hon'ble Supreme Court of India*, *(Verma Committee).* Department of School Education and Literacy, MHRD, Government of India, New Delhi, India.

Mohanty, J. (2003). Teacher Education, Deep and Deep Publications Pvt. Ltd., New Delhi.

Moon, B., Mayes, A. S., & Hutchinson, S. (2004). *Teaching learning and curriculum in secondary schools.*London, Routledge Palmer. Retrieved from https://books.google.co.ao/books?id=DxOCAgAAQBAJ

Moore, A. (2004). *The good teacher: Dominant discourses in teaching and teacher education.* London, Routledge Palmer. Retrieved from https://ebookppsunp.files.wordpress.com/2016/06/alex_moore_the_good_teacher__dominant_discourses_in_teaching_and_teacher_education__2004.pdf

*Mishra, S., & Koner, S. (2019).*Two–years teacher education programme-A blame or boon. International Education and Research Journal, 5 (6): 50-51. Retrievedfromhttp://ierj.in/journal/index.php/ierj/article/view/1929/1830

Minsun, et al. (2004). Traditional Versus Integrated Pre-service Teacher Education Curriculum: A Case Study. *Journal of Teacher Education*, 55 (4), 341-356. ERIC Document Reproduction Service No. EJ726976.

Mukul, A. (2016, April 24). Rejig teacher education body: Panel report. Retrieved from https://timesofindia.indiatimes.com/india

Mulder, M., Gulikers, J., Biemans, H., & Wesselink, R. (2009).The new competence concept in higher education: error or enrichment.*Journal of European Industrial Training*, 33(8/9), 755-770.

Muraskin, L. D., Westat, i., United States.Dept. of Education. (1993). *Understanding evaluation: The way to better prevention programmes.* [Washington, D.C.]: U.S. Dept. of Education. Retrieved fromhttps://eric.ed.gov/?id=ED361604

Nagpure, V. R. (1991). *A critical study of the system of teacher education at the secondary level in Maharashtra*, Doctoral dissertation.University of Poona.

National Council for Teacher Education.(1998). *National curriculum framework for quality teacher education*, New Delhi, India.

National Council for Teacher Education, (2005).National *curriculum framework (NCF), 2005*. National Council of Educational Research and Training (NCERT), MHRD, Government of India, New Delhi, India.

National Council for Teacher Education, (2009).*National curriculum framework for teacher education: Towards preparing professional and humane teacher.* National Council for Teacher Education (NCTE), Government of India. New Delhi, India.

National Council for Teacher Education, (2015).Syllabus for Bachelor of Education (B.Ed.) Programme. Department of Teacher Education, National Council of Educational Research and Training (NCERT), MHRD. Government of India.New Delhi, India.

Nayak, K. (1988).The quality of prospective teachers and the selection procedure in practice for admission to the B.Ed. course in Orissa. *The CTE Journal of Teacher Education,* 9(1), 78- 83.

Nataraja, R. (2016). Attitude of teacher trainees towards two year B.Ed. programme and their future.*Scholarly Research Journal for Humanity Science and English Language*, 3(15), 3646-3649. Retrieved from www.srjis.com

Nietfeld, J. L. & Cao, L. (2003).Examining instructional strategies that promote pre-service teachers' personal teaching efficacy.*Current Issues in Education.6(11).* Retrieved from https://www.researchgate.net/publication/332210819

Ngala, J. S. et al. (2019). Evaluating distance education programme using Stufflebeam CIPP Model: University of Buea Cameroon. Journal of Engineering Research and Application, 9(10): 1-5. doi: 10.9790/9622-0910010115. Retrieved from http://www.ijera.com/papers/vol9no10/Series-1/A0910010115.pdf

Nwanchukwu, O. F. (1990). Manpower development in Nigeria through in-service training.*Unpublished M.Ed. thesis,* University of Lagos.

O'Loughlin, M. (1995). Daring the imagination, unlocking voices of dissent and possibility in teaching.*Theory into Practice,* 24(2), 170-116.

Onyefulu, C. N. (2001). *An evaluation study of the B.Ed. business education programs in the University of Technology, Jamaica.*Ph.D. thesis, Faculty of Graduate Studies and Research, Department of Educational Psychology, Edmonton, University of Alberta, Alberta.

Onyefulu, C., Hughes, G., & Samuels,R. (2019).Assessing the performance of student teachers in a Bachelor of Education Programmes at the University of Technology, Jamaica.*Open Access Library Journal*, 6, e5449: 1-16. doi: 10.4236/oalib.1105449. Retrieved from https://www.researchgate.net/publication/333690040

Oyitso, M.O. (1997). The perceived impact of manpower training on trainees' job performance and standard of living in Nigeria's banking industry, *CARESON Journal of Research andDevelopment*, 1 (1), 94-106.

Pal, S. (2014). Shifting towards two-year B.Ed. programme. *International Journal of Applied Social Science,* 1 (2&3), 96-100. Retrieved from http://scientificresearchjournal.com

Pandey, S. K. (2010). Professionalization of teacher education in India: A critique ofteacher education curriculum reforms and its effectiveness. Retrieved from https://www.semanticscholar.org/paper/

Patted, L. B. (1992). *A critical study of the qualitative improvement of secondary school teacher preparation in Karnataka state,* Doctoral dissertation. Karnataka University.

Patton, M. Q. (1997). *Utilization-focused evaluation: The new century text.* SAGE Publications. Retrieved from https://link.springer.com/chapter/10.1007/978-94-010-0309-4_15

Patil, Y., & Kalekar, S. (2015). CIPP model for school evaluation. *Scholarly Research Journal for Humanity Science and English Language*, 2 (10): 2615-2619. Retrieved from http://oaji.net/articles/2015/1201-1439207905.pdf

Pedagogy. (2020). New World Encyclopedia 2020. Retrieved from https://www.newworldencyclopedia.org/entry/Pedagogy

Pradhan, B., & Ramanujam, P. R. (2006). *Handbook 12: Programme evaluation in open and distance education*. STRIDE, IGNOU, New Delhi, India.

Pradhan, P. (2016). Modalities of teacher education in India. *International Journal of Peace, Education and Development, 4(1),* 31-39.

Prakash, V. & Biswal, K. (2008). *Revisting education commission*, NUEPA, New Delhi, India.

Prasad, R. (2014). Effect of teacher training programme on self-concept, self-confidence, teaching competency, and role commitment of special teacher trainees. *American Journal of Educational Research,* 2 (12A): 22-30.doi:10.12691/education-2-12A-4. Available online at http://pubs.sciepub.com/education/2/12A/4 © Science and Education Publishing https://www.researchgate.net/publication/280581735.

Prince, B. F. (2010). *Effectiveness of teacher preparation: From theory to practice at Capella University* (Ph.D. Thesis, Capella University, Minnesota, United States), Retrievedfrom https://www.researchgate.net/publication/282030628

Qazi, W., Rawat, K. J., Sharjeel, M. Y., & Devi, S. (2008). Teacher perception about implementation strategy of B.Ed. teaching practice in real school classrooms: Issues and challenges. *The Sindh University Journal of Education*, *38*, 54-76. Retrieved from http://encompass.eku.edu/ci_fsresearch/53

Rajput, S. B. (2016). Issues of B.Ed. programme in terms one year or two years and teaching learning process: Some observations and reflections. *International Journal of Research in all Subjects in Multi Languages,* 4(2): 30-33. Retrieved from www.raijmr.com

Richardson, V. & Roosevelt, D. (2005). Teacher preparation and the improvement of teacher education. *Yearbook of the National Society for the Study of Education*. 103. 105 - 144. 10.1111/j.1744-7984.2004.tb00032.x.

Roy, S. D. (1991). *Impact of the elementary teacher education programme on attitudinal change of the elementary teacher-trainees of Orissa towards community involvement,* Doctoral dissertation. Utkal University.

Saeed, M. (2002). Impact evaluation of 5-day teaching skills development course for primary school teachers in Punjab. *Journal of Elementary Education*, 12 (1-2), 36-44.

Sahoo, P. K., & Sharma, P. (2018). Student teachers perception towards the restructuring of teacher education programmes. *Educational Quest: An Int. J. of Education and Applied Social Science, 9(2),* 187-201. doi: 10.30954/2230-7311.2018.08.6. Retrieved from https://ndpublisher.in/admin/issues/EQv9n2f.pdf

Sahoo, P. K., & Sharma, P. (2018). Student teachers' perception towards curriculum reform in teacher education programme in Odisha. *Educational Quest: An International Journal of Education and Applied Social Sciences, 9(1)*, 1-11. doi:10.30954/2230-7311.2018.04.01. Retrieved from https://www.indianjournals.com/

Saini, R. (2016). The impact of training effectiveness: A review. *International Journal of Applied Research*. 2(8): 677-681. Retrieved from https://www.allresearchjournal.com/archives/2016/vol2issue8/PartJ/3-7-38-902.pdf

Sangai, S. and Garg, S. (2009). Evaluation of the teacher training programme at Indira Gandhi National Open University. *Unpublished*. Retrieved from https://eval.connectedcommunity.org

Sao, S., & Behera, S. K. (2016). Student-teachers' attitude towards two-year B.Ed. programme with reference to NCTE regulation, 2014. *Pedagogy of Learning, 2 (3),* 09-24. Retrieved from http://pedagogyoflearning.com/

Saxena, N. R., Mishra, B. K., & Mohanty, R. K. (2015), *Teacher Education*, Vinay Rakheja Publication, Meerut, India.

Schleicher, A. (2011). *Preparing teachers and developing school leaders for 21st century-lessons from around the world*. Background report for the International

Summit on the Teaching Profession, New York. Retrieved from http://www.oecd.org.

Scriven, M. (1974). Pros and cons about goal free evaluation. In W. J. Popham (Ed.), Evaluation in education: Current applications (pp. 34–67). McCutchan Publishing Corporation.

Seethramu, A. S. (1986). A survey of secondary teacher education of ISEC. Banglore.

Shahid, M. S. (2007, April). *The professional relevance primary school teachers: A neglected area of teacher education.* Paper presented in National Conference on the Changing Role of Teacher Education in the Era of Globalization, Institute of Education and Research, University of the Punjab, Lahore, Pakistan. Retrieved from https://www.semanticscholar.org/paper

Sharma, S. P. (2004). Teacher Education in India, Vikas Publications, New Delhi.

Sharma, R.A. (2007). *Essentials of scientific behavioural research*. Raj Printer, Meerut, U.P., India.

Siddiqui, M. A. (2010). *Teacher education reflection towards policy formulation wing–II*. Hans Bhawan, Bahadur Shah Zafar Marg, New Delhi, India.

Sindney, S., Castellan, N. & John, Jr. (1998). *Nonparametric statistics for the behavioral sciences*. McGraw-Hill Book Co., Singapore.

Singh, A. K. (2011). *Tests, measurements and research methods in behavioral sciences.* Bharti Bhawan Publishers, Patna, Bihar, India.

Singh, L.C. (1990). Teacher Education in India: A Resource Book, NCERT, Delhi.

Smith, K. M. (1981). *An analysis of the practice of educational program evaluation in terms of the CIPP evaluation model.* Dissertations, Loyola University Chicago. https://ecommons.luc.edu/luc_diss/1997

Smith, M. S. & O' Day, J. (1990). *Systemic school reform: Politics of Education Association Yearbook 1990* (pp. 233-267). London: Taylor & Francis. Retrieved from https://www.tandfonline.com/doi/abs/10.1080/02680939008549074

Soon, L. H. (2004). *Effectiveness of the Postgraduate Teaching Course (PGTC) in Malaysia: An efficiency analysis.* Retrieved fromhttp://www.herdsa.org.au/conference2004/Contributions/NRPapers

Sonwane, J. R. (2015). Teacher Education in India. *International Journal of Research and Analytical Reviews, 2(3),* 23-27.

Srilatha, G. (2016). A study on the opinion of B.Ed. students on a two year B.Ed. programme. *Indian Journal of Applied Research, 6(6),* 392-394. doi: 1036106//ijar. Retrieved from https://www.worldwidejournals.com

Srivastava, K. (1982). *Effectiveness of the teacher education program*. Ph.D. dissertation. Avadh University.

Srivastava, B. M. (1989). *The impact of the teacher education programme of Lucknow University on pupil-teachers' attitude and teaching efficiency.* Ph.D. dissertation. University of Lucknow.

Stufflebeam, D. L. (2000). The CIPP Model for Evaluation. In D. L. Stufflebeam, G. F. Madaus, & T. Kellaghan (Eds.), Evaluiation Models: Viewpoints on Educational and Human Services Evaluation (second edi, pp. 279–318). Boston: Kluwer Academic.

Stufflebeam, D. L. (2003). The CIPP Model for Evaluation. In T. Kellaghan, D. L. Stufflebeam, & L. A. Wingate (Eds.), International Handbook of Educational Evaluation (pp. 31–62). Dordrecht: Kluwer Academic Publisher.

Stufflebeam, D. L. (2007). Cipp evaluation model checklist. NYLC Resources, (March), 15. Retrieved from https://www.wmich.edu/sites/default/files/attachments/u350/2014/cippchecklist_mar07.pdf

Stufflebeam, D. L. (2014). Daniel Stufflebeam's CIPP Model for Evaluation- An Improvement and Acountability-Oriented Aproach. In D. L. Stufflebeam, Coryn, & L. S. Chris (Eds.), Research Methods for Social Sciences: Evaluation Theory, Models and Applications (pp. 310–339). Someset: Jossay-Bass.

Stufflebeam, D. L., Coryn, & Chris, L. S. (2014). *Research method for social sciences: Evaluation Theory, Models and Applications*. Jossay-Bass.

Stufflebeam, D. L., & Shinkfield, A., J. (1985). *Systematic evaluation: A self-instructional guide to theory and practice*. Boston: Kluwer Academic Publisher.

Sudha, S. (2017). Attitude of student teachers and teacher educators towards two years B.Ed. course. *Paripex-Indian Journal of Research,6(1),* 212-214. Retrieved from https://www.worldwidejournals.com/paripex/recent_issues_pdf/2017/January/January_2017_1483615150__137.pdf

Sushma, R. (2016). Attitude of teacher educators' towards two years B.Ed. programme. *Scholarly Research Journal for Humanity Science and English Language*, 3(14), 3365-3670. Retrieved from www.srjis.com

Suleman, Q. et al. (2011). Effectiveness of the teacher training programmes offered by institute of education & research, Kohat University of Science & Technology Kohat (Khyber Pukhtunkhwa) Pakistan. *International Journal of Humanities and Social Science,* 1(16): 305-317.

Stufflebeam, D. L. (1983). The CIPP model for program evaluation. In G.F. Madaus, M. Scriven, & D.L. Stufflebeam (Eds.), *Evaluation models*, 117-141, Boston: Kluwer-Nijhoff.

Tamang, P. (2018). *Factors Impacting Attitude of Teacher Educators towards Two Years B. Ed Programme in Select Colleges of West Bengal at Sikkim University* (Ph.D. Thesis, Sikkim University, Sikkim, India).Retrieved from http://dspace.cus.ac.in/jspui/bitstream/1/6073/1/prbin%20tamang.pdf

Teacher Education. (2020). New World Encyclopedia 2020. Retrieved from https://www.newworldencyclopedia.org/entry/Teacher_education

Tingley, J. A. (2017). *An evaluation of southeast school district's special education program's compliance*. Ph.D. Thesis, The Faculty of the School of Education, The College of William and Mary, Virginia, United States of America). doi: org/10.25774. Retrieved from https://scholarworks.wm.edu/cgi/viewcontent.cgi?article=1283&context=etd

Tyler, R. W. (1949). Basic principles of curriculum and instruction. Chicago: The University of Chicago Press.

Ulum, Ö. G. (2016). Evaluation of English as a Foreign Language Program - Using CIPP (Context, Input, Process and Product) Model.*European Journal of English Language Teaching, 1(2)*, 114-137. doi:10.5281/zenodo.203077. Retrieved from www.oapub.org/edu

University Grant Commission. (1970). *Panel on teacher education*, University Grant Commission, New Delhi, India.

Vijayalakshmi, M. K, & Menon R. B. (2017). The perspective of teacher educators and teaching competencies for imparting two year B.Ed. programme suggested by NCTE in Karnataka, *IOSR Journal of Business and Management,* 51-54. Retrieved from www.iosrjournals.org

Walia, J. K. (1992). *Secondary teacher education programmes in northern India: An evaluative study.* Doctoral dissertation. Jamia Millia Islamia.

Warju, W. (2016). Educational Program Evaluation Using CIPP Model. *Innovation of Vocational Technology Education,* 12 (1): 36-42. Retrieved from

https://www.neliti.com/publications/65957/educational-program-evaluation-using-cipp-model

Wikipedia, the free encyclopedia (2020). Bachelor of Education. Retrieved from https://en.wikipedia.org/wiki/Bachelor_of_Education

Wikipedia, the free encyclopedia (2020). Teacher Education. Retrieved from https://en.wikipedia.org/wiki/Teacher_education

Williams, H. S., & Alawiye, O. (2001). Assessment: lessons learned from a year long undergraduate teacher education pilot program. *Journal of Instructional Psychology*, *28*(4), 229+.

Wong, P (2004). The PD of school principals: insight from evaluating a programme in Hong Kong. *School Leadership and Management, 24 (2),* 139-162. Retrieved from*https://journals.sagepub.com/doi/abs/10.1177/1741143214564766*

Yadav, G. L. (1992). *Impact of teacher training on certain personality characteristics of trainees,* Doctoral dissertation. Agra University.

Zhang, G. et al. (2011). Using the context, input, process, and product evaluation model (CIPP) as a comprehensive framework to guide the planning, implementation, and assessment of service-learning programs. *Journal of Higher Education Outreach and Engagement*, 15(4): 57-84.

Appendix A

Content Validity Ratio of ESIBP-PTs

Sr. No.	Statements	E	U	N	CVR
I	**Context - The two-year B.Ed. Programme**				
1	develops prospective teachers into competent professionals.	9	0	0	1
2	emphasizes the holistic development of prospective teachers.	9	0	0	1
3	develops skills to deal with the diverse problems of the classroom.	9	0	0	1
4	focuses upon the practical aspects of the teaching and learning process.	9	0	0	1
5	emphasizes rigorous teaching internship practice.	9	0	0	1
6	links school knowledge with community life.	9	0	0	1
7	increases the employability rate of pupil teachers.	9	0	0	1
8	develops understanding among pupil teachers to deal with diverse students,	9	0	0	1
9	aims to guide pupil teachers for the teaching profession.	8	1	0	0.778
10	exposes pupil teachers with modern learning facilities.	8	1	0	0.778
11	**design different learning resource centers/labs as per the need of the B. Ed. curriculum.**	**1**	**1**	**7**	**-0.778**
12	provides sufficient time to pupil teachers in attaining knowledge about the essentials of the teaching profession.	8	1	0	0.778
13	develops an understanding of different course objectives among pupil teachers.	8	1	0	0.778
14	unfolds professional competencies in pupil teachers.	8	1	0	0.778
15	prepares humane teachers.	9	0	0	1
16	prepares professional teachers.	9	0	0	1
17	develops/induces ethical standards of the teaching profession in pupil teachers.	8	1	0	0.778
18	develops academic competencies in pupil teachers.	8	U	0	0.778
19	develops personal competencies in pupil teachers.	8	1	0	0.778
20	focuses on the theoretical understanding of stages of human development.	8	1	0	0.778
21	**develops an appreciation for diversities in Indian societies, issues, and policies, incentives, and innovations of Indian education.**	**0**	**4**	**5**	**-1**
22	develops understanding and learning needs of diverse learners and adopts various strategies of teaching accordingly.	8	1	0	0.778
23	**promotes yoga education for keeping good health and physic.**	**2**	**2**	**5**	**-0.556**

Sr. No.	Statements	E	U	N	CVR
24	aims to sensitize pupil teachers for existing language diversity among students in the class.	8	1	0	0.778
25	aims to develop an understanding of key concepts of school subjects and related pedagogical issues.	8	1	0	0.778
II	**Input - In the two years B.Ed. programme**				
26	All activities, of B.Ed. programme, are included in the academic calendar.	9	0	0	1
27	A variety of field-based assignments are given by respective subject teacher educators for each pupil teacher.	8	1	0	0.778
28	Diverse projects are assigned in B. Ed. programme.	9	0	0	1
29	Pupil teachers have an easy access to library resources.	9	0	0	1
30	Each classroom is equipped with modern learning facilities like a computer, LCD projector, internet, smartboard, etc. in working condition.	8	1	0	0.778
31	Practical activities are organized by teacher educators in respective learning resource centers/labs (including math/science/social science/language lab).	9	0	0	1
32	Teaching skill inputs are given through simulated teaching in B. Ed. programme.	9	0	0	1
33	Teaching internship is organized for preparing professional teachers.	9	0	0	1
34	The roles and responsibilities of teaching intern are clearly defined in B. Ed. programme.	9	0	0	1
35	Fieldwork and teaching internship is organized to develop professional competencies in pupil teachers.	9	0	0	1
36	Fieldwork and teaching internship are organized to develop personal competencies in pupil teachers.	8	1	0	0.778
37	Different professional activities are organized for enhancing professional capacities.	9	0	0	1
38	The community service programme is organized by College/Institute/in collaboration with NGOs to prepare humane teachers.	8	1	0	0.778
39	B. Ed. curriculum incorporates the content required for state/center level teacher eligibility test.	9	0	0	1
40	Courses related to perspectives in education as well as curriculum & pedagogic studies are included in B. Ed. curriculum.	8	0	1	0.778
41	**B. Ed. programme initiated by developing an understanding of different course objectives to pupil teachers.**	**3**	**1**	**5**	**-0.333**
42	Fieldwork is organized for developing ethical standards of the teaching profession in pupil teachers.	8	1	0	0.778

Sr. No.	Statements	E	U	N	CVR
43	Training in the effective use of academic resources is given by teacher educators to pupil teachers.	9	0	0	1
44	Childhood & Growing up; and understanding the self are the courses for understanding the stages of development of the child.	8	1	0	0.778
45	The course of contemporary India and education provides/gives theoretical input to B. Ed. students	**0**	**1**	**8**	**-1**
46	Diversity of learning needs of learners and various teaching strategies are taught through the course of learning and teaching.	8	1	0	0.778
47	**Inputs related to curriculum construction and transactions are given to pupil teachers through the course on knowledge and curriculum.**	**2**	**3**	**4**	**-0.556**
48	Input regarding creating an inclusive school is given through the course on diverse education.	8	1	0	0.778
49	**Knowledge related to various health and physical education programmes is provided to pupil teachers.**	**2**	**1**	**6**	**-0.556**
50	In the first two semesters of B.Ed. programme, the classes of pedagogy subjects are held to teach key concepts and pedagogical issues.	8	1	0	0.778
III	**Process – In the two years B.Ed. programme**				
51	Real-life experiences are being shared in the classroom.	9	0	0	1
52	Case studies/projects are being conducted as strategies to sensitize about community.	9	0	0	1
53	The evaluation criterion is being discussed at the beginning of the lesson.	9	0	0	1
54	Various formative assessment strategies are being employed.	8	1	0	0.778
55	Remedial measures are being provided as per the needs of the students.	9	0	0	1
56	Modern learning facilities like computers, LCD projector, internet, smartboard, etc. are regularly used by teacher educators during classroom teaching.	8	1	0	0.778
57	Guidelines to carrying out field-based assignments are given by respective subject teacher educators to pupil teachers.	8	1	0	0.778
58	Assessment is being done based on pre-decided rubrics.	8	1	0	0.778
59	Constructive feedback is being given in simulated teaching practice.	9	0	0	1
60	The role of teacher, students, and observer is being performed in simulated teaching practice.	9	0	0	1
61	Classroom teaching evaluation is being done daily in teaching practice.	9	0	0	1

Sr. No.	Statements	E	U	N	CVR
62	Different academic and non-academic activities are being performed during the teaching internship.	9	0	0	1
63	Two weeks of fieldwork during the first two semesters and teaching internship during the third semester in schools to develop professional competencies in pupil teachers.	8	1	0	0.778
64	Service-learning activities are being conducted in collaboration with the community.	9	0	0	1
65	The community service programme is conducted by pupil teachers at places assigned by college/institute/NGOs to prepare humane teachers.	8	1	0	0.778
66	Pupil teachers learn to exploits different digital as well as non-digital library resources.	8	1	0	0.778
67	Practical activities are performed by pupil teachers in respective learning resource centers/labs (including math/science/social science/language/Psychology/Yoga lab).	9	0	0	1
68	Professional enhancement activities are being organized.	9	0	0	1
69	Special sessions/classes are organized in our institute to prepare the pupil teachers for the state/center level teacher eligibility test.	9	0	0	1
70	**Two weeks of fieldwork during the first two semesters and teaching internship during the third semester in schools develop ethical standards of the teaching profession in pupil teachers.**	**2**	**1**	**6**	**-0.556**
71	**The use of information and communication technology resources by teacher educators in classroom teaching enhances the academic competencies of pupil teachers.**	**0**	**1**	**8**	**-1**
72	**Classroom teaching and field assignments focus on different stages of child development.**	**0**	**0**	**9**	**-1**
73	Pupil teachers learn to appreciate the diverse needs of learners and follow various teaching strategies during the period of teaching internship.	1	1	7	0.778
74	**Information regarding knowledge and implementation of policies on inclusive education is given to pupil teachers for addressing learners' diversity.**	**2**	**1**	**6**	**-0.556**
75	**Guidance in the organization of games, sports, and demonstration of yogic activities is given to pupil teachers.**	**0**	**1**	**8**	**-1**
IV	**Product - The two-year B.Ed. Programme has**				
76	transformed me into a competent professional.	9	0	0	1

Sr. No.	Statements	E	U	N	CVR
77	trained pupil teachers to practice different teaching strategies as per the diverse needs of learners.	8	1	0	0.778
78	trained pupil teachers to handle inclusive classrooms using inclusive pedagogy.	8	1	0	0.778
79	prepared pupil teachers to easily pass state/center level teacher eligibility test.	9	0	0	1
80	developed my communication competencies.	9	0	0	1
81	developed my academic competencies.	8	1	0	0.778
82	enabled me to conduct various non-academic activities.	9	0	0	1
83	developed my instructional planning skills.	9	0	0	1
84	developed competencies to use e-learning resources in the teaching-learning process.	9	0	0	1
85	developed me holistically.	9	0	0	1
86	developed humane qualities in pupil teachers through the community service programme.	8	1	0	0.778
87	developed skills to design various assessment strategies.	9	0	0	1
88	trained pupil teachers to use the various modern learning facilities during the teaching in the classroom.	9	0	0	1
89	trained pupil teachers to practice subject-related different strategies as per the needs of students through teaching internship.	8	1	0	0.778
90	developed cooperation and collaboration skills in me.	9	0	0	1
91	developed skills to use various evaluation strategies.	9	0	0	1
92	exposed pupil teachers to pre-requisites of the teaching profession.	8	1	0	0.778
93	exposed pupil teachers to various educational issues by conducting field-based assignments.	8	1	0	0.778
94	trained pupil teachers in using various learning resource centers/labs as per the requirement of their subject teaching.	8	1	0	0.778
95	developed a habit of inquiry by exploiting various resources of knowledge in the library.	8	1	0	0.778
96	provided knowledge related to the essentials of the teaching profession.	8	1	0	0.778
97	**worked consistently to attain the different course objectives of B.Ed. programme.**	**1**	**1**	**7**	**-0.778**
98	developed professional attitude in teaching internship.	8	1	0	0.778
99	prepared the pupil to teach students as per their stages of development.	8	1	0	0.778
100	**prepared the pupil teachers to conduct action research for improving the language proficiency of their students.**	**0**	**0**	**9**	**-1**

Appendix B

Item Evaluation of ESIBP-PTs (p-values)

Sr. No.	Statements	p-value
I	**Context - The two-year B.Ed. Programme**	
1	develops prospective teachers into competent professionals.	$p < 0.01$
2	emphasizes the holistic development of prospective teachers.	$p < 0.01$
3	develops skills to deal with the diverse problems of the classroom.	$p < 0.01$
4	focuses upon the practical aspects of the teaching and learning process.	$p < 0.01$
5	emphasizes rigorous teaching internship practice.	$p < 0.01$
6	links school knowledge with community life.	$p < 0.01$
7	increases employment opportunities for prospective teachers.	$p < 0.01$
8	develops inclusive competencies to deal with diverse students.	$p < 0.01$
9	**prepares humane teachers.**	**$p > 0.05$**
10	**prepares professional teachers.**	**$p > 0.05$**
11	**develops academic competencies in pupil teachers.**	**$p > 0.05$**
12	**develops personal competencies in pupil teachers.**	**$p > 0.05$**
13	**focuses on the theoretical understanding of stages of human development.**	**$p > 0.05$**
II	**Input - In the two years B.Ed. programme**	
14	All activities, of B.Ed. programme, are included in the academic calendar.	$p < 0.01$
15	Subject-specific field-based assignments are allocated in B.Ed. programme	$p < 0.01$
16	Diverse projects are assigned in B.Ed. programme.	$p < 0.01$
17	Library resources are easily accessible in B.Ed. programme.	$p < 0.01$
18	Modern learning facilitates for teaching are available in B.Ed. programme.	$p < 0.01$
19	Learning resource centers/labs are available.	$p < 0.01$
20	Teaching skill inputs are given through simulated teaching in B.Ed. programme.	$p < 0.01$
21	Teaching internship handbook/guidelines are provided in B.Ed. programme.	$p < 0.01$
22	The roles and responsibilities of the teaching intern are clearly defined in B.Ed. programme.	$p < 0.01$
23	Two weeks of fieldwork are organized in schools.	$p < 0.01$
24	Rigorous teaching internship for 14 weeks is organized in schools.	$p < 0.01$
25	Different professional activities are organized for enhancing professional capacities.	$p < 0.01$
26	Collaborative partnership with the community is set up in B. Ed. programme.	$p < 0.01$

Sr. No.	Statements	p-value
27	Extra inputs for state/center level teacher eligibility test are given.	$p < 0.01$
28	**Courses related to perspectives in education as well as curriculum & pedagogic studies are included in B. Ed. curriculum.**	**$p > 0.05$**
29	**Input regarding creating an inclusive school is given through the course on diverse education.**	**$p > 0.05$**
III	**Process – In the two years B.Ed. programme**	
30	Real-life experiences are being shared in the classroom.	$p < 0.01$
31	Case studies/projects are being conducted as strategies to sensitize about community	$p < 0.01$
32	The evaluation criterion is being discussed at the beginning of the lesson.	$p < 0.01$
33	Various formative assessment strategies are being employed.	$p < 0.01$
34	Remedial measures are being provided as per the needs of the students.	$p < 0.01$
35	E-resources are being used in classroom teaching.	$p < 0.01$
36	Field-based academic tasks are being conducted.	$p < 0.01$
37	Assessment is being done based on pre-decided rubrics.	$p < 0.01$
38	Constructive feedback is being given in simulated teaching practice.	$p < 0.01$
39	The role of teacher, students, and observer is being performed in simulated teaching practice.	$p < 0.01$
40	Classroom teaching evaluation is being done daily in teaching practice.	$p < 0.01$
41	Different academic and non-academic activities are being performed during the teaching internship.	$p < 0.01$
42	Field visits to schools are being organized to develop understanding about school systems.	$p < 0.01$
43	Service-learning activities are being conducted in collaboration with the community.	$p < 0.01$
44	Community projects are being conducted in collaboration with NGOs.	$p < 0.01$
45	Library resources are being consulted for content enrichment.	$p < 0.01$
46	Subject-specific competencies are being developed by use learning resource centers.	$p < 0.01$
47	Professional enhancement activities are being organized.	$p < 0.01$
48	Inputs are being given for the preparation of the Teacher Eligibility Test.	$p < 0.01$
IV	**Product - The two-year B.Ed. Programme has**	
49	transformed me into a competent professional.	$p < 0.01$
50	developed skills to deal with the diverse problems of the classroom.	$p < 0.01$

Sr. No.	Statements	p-value
51	developed inclusive competencies to deal with diverse students.	$p < 0.01$
52	enabled me to qualify Teacher Eligibility Test.	$p < 0.01$
53	developed my communication competencies.	$p < 0.01$
54	enabled me to conduct various academic activities.	$p < 0.01$
55	enabled me to conduct various non-academic activities.	$p < 0.01$
56	developed my instructional planning skills.	$p < 0.01$
57	developed competencies to use e-learning resources in the teaching-learning process.	$p < 0.01$
58	developed me holistically.	$p < 0.01$
59	developed social competencies to deal effectively with the community.	$p < 0.01$
60	developed skills to design various assessment strategies.	$p < 0.01$
61	developed skills to integrate online resources in the teaching-learning process.	$p < 0.01$
62	developed skills to use the latest teaching strategies.	$p < 0.01$
63	developed cooperation and collaboration skills in me.	$p < 0.01$
64	developed skills to use various evaluation strategies.	$p < 0.01$
65	**exposed pupil teachers to various educational issues by conducting field-based assignments.**	**$p > 0.05$**
66	**provided knowledge related to the essentials of the teaching profession.**	**$p > 0.05$**
67	**prepared the pupil to teach students as per their stages of development.**	**$p > 0.05$**

Appendix C
Exploratory Factor Analysis of ESIBP-PTs

Dimensions	Sr. No.	Statements	Loading
	I	**Context of the B. Ed. Programme**	
		The two-year B.Ed. Programme	
Mission and Vision (MV)	1	develops prospective teachers into competent professionals.	0.462
	2	emphasizes the holistic development of prospective teachers.	0.619
	3	develops skills to deal with the diverse problems of the classroom.	0.804
	8	develops inclusive competencies to deal with diverse students.	0.664
Programme Objectives (PO)	4	focuses upon the practical aspects of the teaching and learning process.	0.500
	5	emphasizes rigorous teaching internship practice.	0.809
	6	links school knowledge with community life.	0.547
	7	increases employment opportunities for prospective teachers.	0.606
	II	**The input of the B. Ed. programme.**	
		In the two-year B.Ed. programme	
Academic Inputs (AI)	1	All activities, of B.Ed. programme, are included in the academic calendar.	0.669
	2	Subject-specific field-based assignments are allocated in B.Ed. programme.	0.642
	3	Diverse projects are assigned in B.Ed. programme.	0.805
Resource Inputs (RI)	4	Library resources are easily accessible in B.Ed. programme.	0.602
	5	Modern learning facilitates for teaching are available in B.Ed. programme.	0.766
	6	Learning resource centers/labs are available.	0.667
Training Inputs (TI)	7	Teaching skill inputs are given through simulated teaching in B.Ed. programme.	0.698
	8	Teaching internship handbook/guidelines are provided in B.Ed. programme.	0.676
	9	The roles and responsibilities of the teaching intern are clearly defined in B.Ed. programme.	0.614
	10	Two weeks of fieldwork are organized in schools.	0.703
	11	Rigorous teaching internship for 14 weeks is organized in schools.	0.840
	14	Extra inputs for state/center level teacher eligibility test are given.	0.730

Dimensions	Sr. No.	Statements	Loading
Professional Inputs (PI)	12	Different professional activities are organized for enhancing professional capacities.	0.581
	13	Collaborative partnership with the community is set up in B.Ed. programme.	0.629
	III	**Process of the B. Ed. Programme**	
		In the two-year B.Ed. programme	
Curriculum Transaction Process (CTP)	1	Real-life experiences are being shared in the classroom.	0.539
	5	Remedial measures are being provided as per the needs of the students.	0.722
	6	E-resources are being used in classroom teaching.	0.464
	7	Field-based academic tasks are being conducted.	0.558
	10	The role of teacher, students, and observer is being performed in simulated teaching practice.	0.825
	11	Classroom teaching evaluation is being done daily in teaching practice.	0.606
	12	Different academic and non-academic activities are being performed during the teaching internship.	0.767
Professional Process (PP)	2	Case studies/projects are being conducted as strategies to sensitize about community.	0.537
	13	Field visits to schools are being organized to develop understanding about school systems.	0.750
	18	Professional enhancement activities are being organized.	0.727
	19	Inputs are being given for the preparation of the Teacher Eligibility Test.	0.613
Training Process (TP)	9	Constructive feedback is being given in simulated teaching practice.	0.773
	14	Service-learning activities are being conducted in collaboration with the community.	0.594
	15	Community projects are being conducted in collaboration with NGOs.	0.868
Academic Process (AP)	16	Library resources are being consulted for content enrichment.	0.525
	17	Subject-specific competencies are being developed by use learning resource centers.	0.730
Evaluation Process (EP)	3	The evaluation criterion is being discussed at the beginning of the lesson.	0.694
	4	Various formative assessment strategies are being employed.	0.654
	8	Assessment is being done based on pre-decided rubrics.	0.748

Dimensions	Sr. No.	Statements	Loading
	IV	**Product of the B. Ed. Programme**	
		B. Ed. Programme has	
Professional Competencies Product (PCPr)	1	transformed me into a competent professional.	0.615
	4	enabled me to qualify Teacher Eligibility Test.	0.700
	5	developed my communication competencies.	0.711
	6	enabled me to conduct various academic activities.	0.832
	7	enabled me to conduct various non-academic activities.	0.608
	10	developed me holistically.	0.716
	11	developed social competencies to deal effectively with the community.	0.756
	15	developed cooperation and collaboration skills in me.	0.807
Inclusive Competencies Product (ICPr)	2	developed skills to deal with the diverse problems of the classroom.	0.709
	3	developed inclusive competencies to deal with diverse students.	0.547
Teaching and Evaluation Competencies Product (TECPr)	8	developed my instructional planning skills.	0.766
	9	developed competencies to use e-learning resources in the teaching-learning process.	0.593
	12	developed skills to design various assessment strategies.	0.581
	13	developed skills to integrate online resources in the teaching-learning process.	0.565
	14	developed skills to use the latest teaching strategies.	0.670
	16	developed skills to use various evaluation strategies.	0.837

Appendix D
Evaluation Scale for Impact of B.Ed. Programme for Pupil Teachers (ESIBP-PTs)

This scale consists of 57 **statements relating to *Context, Input, Process*, and *Product* of the two-year B.Ed. programme.** Each statement has *four options e.g. strongly agree (SA), agree (A), disagree (D), or strongly disagree (SD).*

Instructions:

1. Read each statement carefully and encircle one of the four options given against each statement.
2. Your responses will be used only for research purposes.
3. Please respond to each statement.

Statement Code	Sr. No.	Statements	Options			
	I	**Context of the two-year B.Ed. programme**				
		The two-year B.Ed. Programme				
MV₁	1	develops prospective teachers into competent professionals.	SA	A	D	SD
MV₂	2	emphasizes the holistic development of prospective teachers.	SA	A	D	SD
MV₃	3	develops skills to deal with the diverse problems of the classroom.	SA	A	D	SD
MV₄	4	develops inclusive competencies to deal with diverse students.	SA	A	D	SD
PO₁	5	focuses upon the practical aspects of the teaching and learning process.	SA	A	D	SD
PO₂	6	emphasizes rigorous teaching internship practice.	SA	A	D	SD
PO₃	7	links school knowledge with community life.	SA	A	D	SD
PO₄	8	increases employment opportunities for prospective teachers.	SA	A	D	SD
	II	**The input of the two-year B.Ed. programme**				
		In the two-year B.Ed. programme				
AI₁	1	All activities, of B.Ed. programme, are included in the academic calendar.	SA	A	D	SD
AI₂	2	Subject-specific field-based assignments are allocated in B.Ed. programme.	SA	A	D	SD
AI₃	3	Diverse projects are assigned in B. Ed. programme.	SA	A	D	SD
RI₁	4	Library resources are easily accessible in B.Ed. programme.	SA	A	D	SD
RI₂	5	Modern learning facilitates for teaching are available in B.Ed. programme.	SA	A	D	SD
RI₃	6	Learning resource centers/labs are available.	SA	A	D	SD

Statement Code	Sr. No.	Statements	Options			
TI$_1$	7	Teaching skill inputs are given through simulated teaching in B.Ed. programme.	SA	A	D	SD
TI$_2$	8	Teaching internship handbook/guidelines are provided in B.Ed. programme.	SA	A	D	SD
TI$_3$	9	The roles and responsibilities of the teaching intern are clearly defined in B.Ed. programme.	SA	A	D	SD
TI$_4$	10	Two weeks of fieldwork are organized in schools.	SA	A	D	SD
TI$_5$	11	Rigorous teaching internship for 14 weeks is organized in schools.	SA	A	D	SD
TI$_6$	12	Extra inputs for state/center level teacher eligibility test are given.	SA	A	D	SD
PI$_1$	13	Different professional activities are organized for enhancing professional capacities.	SA	A	D	SD
PI$_2$	14	Collaborative partnership with the community is set up in B.Ed. programme.	SA	A	D	SD
	III	**Process of the two-year B.Ed. programme**				
		In the two-year B.Ed. programme				
CTP$_1$	1	Real-life experiences are being shared in the classroom.	SA	A	D	SD
CTP$_2$	2	Remedial measures are being provided as per the needs of the students.	SA	A	D	SD
CTP$_3$	3	E-resources are being used in classroom teaching.	SA	A	D	SD
CTP$_4$	4	Field-based academic tasks are being conducted.	SA	A	D	SD
CTP$_5$	5	The role of teacher, students, and observer is being performed in simulated teaching practice.	SA	A	D	SD
CTP$_6$	6	Classroom teaching evaluation is being done daily in teaching practice.	SA	A	D	SD
CTP$_7$	7	Different academic and non-academic activities are being performed during the teaching internship.	SA	A	D	SD
PP$_1$	8	Case studies/projects are being conducted as strategies to sensitize about community.	SA	A	D	SD
PP$_2$	9	Field visits to schools are being organized to develop understanding about school systems.	SA	A	D	SD
PP$_3$	10	Professional enhancement activities are being organized.	SA	A	D	SD
PP$_4$	11	Inputs are being given for the preparation of the Teacher Eligibility Test.	SA	A	D	SD

Statement Code	Sr. No.	Statements	Options			
TP$_1$	12	Constructive feedback is being given in simulated teaching practice.	SA	A	D	SD
TP$_2$	13	Service-learning activities are being	SA	A	D	SD
TP$_3$	14	Community projects are being conducted in collaboration with NGOs.	SA	A	D	SD
AP$_1$	15	Library resources are being consulted for content enrichment.	SA	A	D	SD
AP$_2$	16	Subject-specific competencies are being developed by use learning resource centers.	SA	A	D	SD
EP$_1$	17	The evaluation criterion is being discussed at the beginning of the lesson.	SA	A	D	SD
EP$_2$	18	Various formative assessment strategies are being employed.	SA	A	D	SD
EP$_3$	19	Assessment is being done based on pre-decided rubrics.	SA	A	D	SD
	IV	**Product of the two-year B.Ed. programme**				
		The two-year B.Ed. Programme has				
PCPr$_1$	1	transformed me into a competent professional.	SA	A	D	SD
PCPr$_2$	2	enabled me to qualify Teacher Eligibility Test.	SA	A	D	SD
PCPr$_3$	3	developed my communication competencies.	SA	A	D	SD
PCPr$_4$	4	enabled me to conduct various academic activities.	SA	A	D	SD
PCPr$_5$	5	enabled me to conduct various non-academic activities.	SA	A	D	SD
PCPr$_6$	6	developed me holistically.	SA	A	D	SD
PCPr$_7$	7	developed social competencies to deal effectively with the community.	SA	A	D	SD
PCPr$_8$	8	developed cooperation and collaboration skills in me.	SA	A	D	SD
ICPr$_1$	9	developed skills to deal with the diverse problems of the classroom.	SA	A	D	SD
ICPr$_2$	10	developed inclusive competencies to deal with diverse students.	SA	A	D	SD
TECPr$_1$	11	developed my instructional planning skills.	SA	A	D	SD
TECPr$_2$	12	developed competencies to use e-learning resources in the teaching-learning process.	SA	A	D	SD
TECPr$_3$	13	developed skills to design various assessment strategies.	SA	A	D	SD
TECPr$_4$	14	developed skills to integrate online resources in the teaching-learning process.	SA	A	D	SD

Statement Code	Sr. No.	Statements	Options			
TECPr5	15	developed skills to use the latest teaching strategies.	SA	A	D	SD
TECPr6	16	developed skills to use various evaluation strategies.	SA	A	D	SD

Please fill in the following information:

Name (optional): _____

Roll No./Regd. No. _____

Gender: (Male/Female) _____

Name of College: _____

Previous Qualification: (B.A./B. Com./B.Sc./M.A./M.Com./M.Sc.) _____

Residence: (Urban/Rural) _____

Specialization/Academic Stream: (Arts/Commerce/ Science) _____

Teacher Eligibility Test (TET) Qualified: (Yes/No) _____

Level of TET Qualified:

1. State level TET (STET): (Yes/No) _____

2. Center level TET (CTET): (Yes/No) _____

Pedagogy/Teaching Subjects:

1. _____

2._____

Thanks for Your Time and Information

Appendix E
Z-score Norms for ESIBP-PTs

Context		Input		Process		Product		Total	
Raw Score	Z-Score	Raw Score	Z-Score	Raw Score	Z-Score	Raw Score	Z-Score	Raw Score	Z-Score
18	-2.83	29	-3.21	44	-2.63	32	-3.20	123	-2.98
18	-2.83	32	-2.68	46	-2.36	34	-2.91	130	-2.67
18	-2.83	36	-1.97	47	-2.23	37	-2.47	138	-2.33
20	-2.20	38	-1.62	49	-1.96	42	-1.74	149	-1.85
22	-1.56	38	-1.62	50	-1.83	43	-1.60	153	-1.68
23	-1.25	38	-1.62	52	-1.56	45	-1.30	158	-1.46
23	-1.25	39	-1.44	53	-1.43	46	-1.16	161	-1.33
24	-0.93	40	-1.26	55	-1.16	46	-1.16	165	-1.16
24	-0.93	41	-1.09	55	-1.16	47	-1.01	167	-1.07
24	-0.93	41	-1.09	56	-1.03	47	-1.01	168	-1.03
24	-0.93	42	-0.91	56	-1.03	48	-0.87	170	-0.94
24	-0.93	42	-0.91	57	-0.89	48	-0.87	171	-0.90
24	-0.93	42	-0.91	57	-0.89	48	-0.87	171	-0.90
24	-0.93	42	-0.91	57	-0.89	48	-0.87	171	-0.90
24	-0.93	42	-0.91	57	-0.89	48	-0.87	171	-0.90
24	-0.93	42	-0.91	57	-0.89	48	-0.87	171	-0.90
24	-0.93	42	-0.91	57	-0.89	48	-0.87	171	-0.90
24	-0.93	42	-0.91	57	-0.89	48	-0.87	171	-0.90
24	-0.93	42	-0.91	57	-0.89	48	-0.87	171	-0.90
24	-0.93	42	-0.91	57	-0.89	48	-0.87	171	-0.90
24	-0.93	42	-0.91	57	-0.89	48	-0.87	171	-0.90
24	-0.93	42	-0.91	58	-0.76	48	-0.87	172	-0.85
24	-0.93	42	-0.91	58	-0.76	48	-0.87	172	-0.85
24	-0.93	42	-0.91	58	-0.76	48	-0.87	172	-0.85
24	-0.93	43	-0.73	58	-0.76	49	-0.72	174	-0.77
25	-0.62	43	-0.73	58	-0.76	49	-0.72	175	-0.72
25	-0.62	43	-0.73	58	-0.76	50	-0.57	176	-0.68
25	-0.62	43	-0.73	58	-0.76	50	-0.57	176	-0.68
25	-0.62	43	-0.73	59	-0.62	50	-0.57	177	-0.64
25	-0.62	43	-0.73	59	-0.62	50	-0.57	177	-0.64
25	-0.62	44	-0.56	59	-0.62	50	-0.57	178	-0.59
25	-0.62	44	-0.56	59	-0.62	50	-0.57	178	-0.59
25	-0.62	44	-0.56	59	-0.62	50	-0.57	178	-0.59
26	-0.30	44	-0.56	60	-0.49	50	-0.57	180	-0.51
26	-0.30	44	-0.56	60	-0.49	50	-0.57	180	-0.51
26	-0.30	45	-0.38	60	-0.49	51	-0.43	182	-0.42
26	-0.30	45	-0.38	61	-0.36	51	-0.43	183	-0.38

Context		Input		Process		Product		Total	
Raw Score	Z-Score	Raw Score	Z-Score	Raw Score	Raw Score	Z-Score	Raw Score	Z-Score	Raw Score
26	-0.30	45	-0.38	61	-0.36	51	-0.43	183	-0.38
26	-0.30	45	-0.38	61	-0.36	51	-0.43	183	-0.38
26	-0.30	45	-0.38	61	-0.36	52	-0.28	184	-0.33
26	-0.30	46	-0.20	61	-0.36	52	-0.28	185	-0.29
26	-0.30	46	-0.20	61	-0.36	52	-0.28	185	-0.29
27	0.01	46	-0.20	61	-0.36	52	-0.28	186	-0.25
27	0.01	46	-0.20	62	-0.22	53	-0.13	188	-0.16
27	0.01	47	-0.02	62	-0.22	53	-0.13	189	-0.12
27	0.01	47	-0.02	62	-0.22	53	-0.13	189	-0.12
27	0.01	47	-0.02	62	-0.22	53	-0.13	189	-0.12
27	0.01	47	-0.02	63	-0.09	53	-0.13	190	-0.07
27	0.01	47	-0.02	63	-0.09	54	0.01	191	-0.03
27	0.01	48	0.15	63	-0.09	54	0.01	192	0.01
27	0.01	48	0.15	63	-0.09	54	0.01	192	0.01
28	0.33	48	0.15	64	0.04	54	0.01	194	0.10
28	0.33	48	0.15	65	0.18	54	0.01	195	0.14
28	0.33	48	0.15	65	0.18	54	0.01	195	0.14
28	0.33	48	0.15	65	0.18	54	0.01	195	0.14
28	0.33	48	0.15	65	0.18	55	0.16	196	0.19
28	0.33	48	0.15	65	0.18	55	0.16	196	0.19
28	0.33	48	0.15	65	0.18	56	0.30	197	0.23
28	0.33	49	0.33	66	0.31	56	0.30	199	0.32
28	0.33	49	0.33	66	0.31	56	0.30	199	0.32
28	0.33	49	0.33	67	0.44	56	0.30	200	0.36
28	0.33	49	0.33	67	0.44	56	0.30	200	0.36
28	0.33	49	0.33	67	0.44	56	0.30	200	0.36
28	0.33	50	0.51	67	0.44	57	0.45	202	0.45
28	0.33	50	0.51	68	0.58	57	0.45	203	0.49
28	0.33	50	0.51	68	0.58	58	0.60	204	0.53
28	0.33	51	0.68	68	0.58	59	0.74	206	0.62
29	0.64	51	0.68	68	0.58	59	0.74	207	0.66
29	0.64	51	0.68	69	0.71	59	0.74	208	0.71
29	0.64	51	0.68	69	0.71	59	0.74	208	0.71
29	0.64	51	0.68	69	0.71	59	0.74	208	0.71
29	0.64	52	0.86	69	0.71	60	0.89	210	0.79
29	0.64	52	0.86	69	0.71	60	0.89	210	0.79
29	0.64	52	0.86	69	0.71	60	0.89	210	0.79
29	0.64	52	0.86	69	0.71	60	0.89	210	0.79

Context		Input		Process		Product		Total	
Raw Score	Z-Score	Raw Score	Z-Score	Raw Score	Raw Score	Z-Score	Raw Score	Z-Score	Raw Score
29	0.64	52	0.86	69	0.71	60	0.89	210	0.79
30	0.96	52	0.86	71	0.98	60	0.89	213	0.92
30	0.96	52	0.86	71	0.98	60	0.89	213	0.92
30	0.96	53	1.04	71	0.98	60	0.89	214	0.97
30	0.96	53	1.04	72	1.11	61	1.04	216	1.05
30	0.96	53	1.04	72	1.11	61	1.04	216	1.05
30	0.96	53	1.04	72	1.11	61	1.04	216	1.05
30	0.96	54	1.21	72	1.11	61	1.04	217	1.10
30	0.96	54	1.21	73	1.24	62	1.18	219	1.18
30	0.96	54	1.21	73	1.24	62	1.18	219	1.18
31	1.27	54	1.21	73	1.24	63	1.33	221	1.27
31	1.27	55	1.39	73	1.24	63	1.33	222	1.31
31	1.27	55	1.39	74	1.38	63	1.33	223	1.36
31	1.27	55	1.39	74	1.38	64	1.47	224	1.40
32	1.59	55	1.39	74	1.38	64	1.47	225	1.44
32	1.59	55	1.39	75	1.51	64	1.47	226	1.49
32	1.59	55	1.39	76	1.64	64	1.47	227	1.53
32	1.59	55	1.39	76	1.64	64	1.47	227	1.53
32	1.59	55	1.39	76	1.64	64	1.47	227	1.53
32	1.59	56	1.57	76	1.64	64	1.47	228	1.57
32	1.59	56	1.57	76	1.64	64	1.47	228	1.57
32	1.59	56	1.57	76	1.64	64	1.47	228	1.57
32	1.59	56	1.57	76	1.64	64	1.47	228	1.57

Appendix F
Content Validity Ratio of ESIBP-TEs

Sr. No.	Statements	E	U	N	CVR
I	**Context -** The two-year B.Ed. Programme				
1	develops prospective teachers into competent professionals.	9	0	0	1
2	emphasizes the holistic development of prospective teachers.	9	0	0	1
3	develops skills to deal with the diverse problems of the classroom.	9	0	0	1
4	focuses upon the practical aspects of the teaching and learning process.	9	0	0	1
5	emphasizes rigorous teaching internship practice.	9	0	0	1
6	links school knowledge with community life.	9	0	0	1
7	increases the employability rate of pupil teachers.	9	0	0	1
8	develops understanding among pupil teachers to deal with diverse students,	9	0	0	1
9	aims to guide pupil teachers for the teaching profession.	8	1	0	0.778
10	exposes pupil teachers with modern learning facilities.	8	1	0	0.778
11	**designs different learning resource centers/labs as per the need of the B. Ed. curriculum.**	**1**	**1**	**7**	**-0.778**
12	provides sufficient time to pupil teachers in attaining knowledge about the essentials of the teaching profession.	8	1	0	0.778
13	develops an understanding of different course objectives among pupil teachers.	8	1	0	0.778
14	unfolds professional competencies in pupil teachers.	8	1	0	0.778
15	prepares humane teachers.	9	0	0	1
16	prepares professional teachers.	9	0	0	1
17	develops/induces ethical standards of the teaching profession in pupil teachers.	8	1	0	0.778
18	develops academic competencies in pupil teachers.	8	1	0	0.778
19	develops personal competencies in pupil teachers.	8	1	0	0.778
20	focuses on the theoretical understanding of stages of human development.	8	1	0	0.778
21	**develops an appreciation for diversities in Indian societies, issues, and policies, incentives, and innovations of Indian education.**	**0**	**4**	**5**	**-1**
22	develops understanding and learning needs of diverse learners and adopts various strategies of teaching accordingly.	8	1	0	0.778

Sr. No.	Statements	E	U	N	CVR
23	**promotes yoga education for keeping good health and physic.**	**2**	**2**	**5**	**-0.556**
24	aims to sensitize pupil teachers for existing language diversity among students in the class.	8	1	0	0.778
25	aims to develop an understanding of key concepts of school subjects and related pedagogical issues.	8	1	0	0.778
II	**Input -** The two year B. Ed. programmme give inputs to				
26	include various subject-specific activities.	9	0	0	1
27	include a variety of field-based assignments.	8	1	0	0.778
28	execute diverse projects.	9	0	0	1
29	use different library resources.	9	0	0	1
30	emphasize the availability of modern learning facilities like computers, LCD projector, internet, smart board, etc. in working conditions in each classroom.	8	1	0	0.778
31	**organize practical activities in respective learning resource centers/labs (including math/science/social science/language lab) by teacher educators.**	**1**	**1**	**6**	**-0.778**
32	supervise simulated teaching for training in teaching skills.	9	0	0	1
33	organize teaching internships for preparing professional teachers.	9	0	0	1
34	organize fieldwork and teaching internship for developing professional competencies in pupil teachers.	9	0	0	1
35	organize fieldwork and teaching internship for developing personal competencies among pupil teachers.	8	1	0	0.778
36	organize different professional activities for enhancing professional capacities.	9	0	0	1
37	organize community service programme by College/Institute/in collaboration with NGOs for preparing humane teachers.	8	1	0	0.778
38	incorporate the content required for state/center level teacher eligibility test in B. Ed. curriculum.	9	0	0	1
39	use rubrics for evaluation.	9	0	0	1
40	supervise and evaluate the academic work with the help of technology.	9	0	0	1
41	include courses related to perspectives in education as well as curriculum & pedagogic studies.	8	0	1	0.778
42	**initiate in developing an understanding of different course objectives to pupil teachers.**	**3**	**1**	**5**	**-0.333**

Sr. No.	Statements	E	U	N	CVR
43	organize fieldwork for developing ethical standards of the teaching profession among pupil teachers.	8	1	0	0.778
44	understand the stages of development of the child through the courses of Childhood & Growing up, and understanding the self.	8	1	0	0.778
45	**provide/give a theoretical idea of education through the course of on contemporary India and education**	**0**	**1**	**8**	**-1**
46	teach the diversity of learning needs of learners and various teaching strategies through the course of learning and teaching.	8	1	0	0.778
47	**curriculum construction and transactions through the course on knowledge and curriculum.**	**2**	**3**	**4**	**-0.556**
48	create an inclusive school through the course on diverse education.	8	1	0	0.778
49	**various health and physical education programmes.**	**2**	**1**	**6**	**-0.556**
50	**teach key concepts and pedagogical issues in the classes of pedagogy subjects during the first two semesters of B.Ed. programme.**	**4**	**2**	**3**	**-0.111**
III	**Process** – In the two years B. Ed. programme, the process is to				
51	use real-life experiences of both pupil teachers and teacher educators in the teaching-learning process.	9	0	0	1
52	conduct case studies/projects as strategies to sensitize about community	9	0	0	1
53	discuss detailed evaluation criteria at the beginning of the lesson.	9	0	0	1
54	apply various formative assessment strategies in evaluation.	8	1	0	0.778
55	practice remedial measures as per the need of the students.	9	0	0	1
56	use modern learning facilities like computers, LCD projector, internet, smart board, etc. by teacher educators during classroom teaching.	8	1	0	0.778
57	perform different academic and non-academic activities during teaching internship.	9	0	0	1
58	assess on the basis of pre-decided rubrics.	8	1	0	0.778
59	give constructive feedback in simulated teaching practice.	9	0	0	1
60	evaluate classroom teaching daily in teaching practice.	9	0	0	1
61	carry out field-based assignments based on guidelines given by respective subject teacher	8	1	0	0.778

Sr. No.	Statements	E	U	N	CVR
	educators to pupil teachers.				
62	**develop professional competencies among pupil teachers in two weeks of fieldwork during the first two semesters and teaching internship during the third semester in schools.**	**2**	**1**	**6**	**-0.556**
63	conduct service-learning activities in collaboration with the community.	9	0	0	1
64	conduct community service programme by pupil teachers at places assigned by college/institute/NGOs for preparing humane teachers.	8	1	0	0.778
65	**exploit different digital as well as non-digital library resources.**	**4**	**1**	**4**	**-0.111**
66	perform practical activities by pupil teachers in respective learning resource centers/labs (including math/science/social science/language/Psychology/Yoga lab).	9	0	0	1
67	organize professional enhancement activities.	9	0	0	1
68	organize special sessions/classes in the institute for preparing the pupil teachers for state/center level teacher eligibility test.	9	0	0	1
69	**develop ethical standards of teaching profession among pupil teachers in two weeks of fieldwork during the first two semesters and teaching internship during the third semester in schools.**	**2**	**1**	**6**	**-0.556**
70	**use the information and communication technology resources by teacher educators in classroom teaching for enhancing the academic competencies of pupil teachers.**	**0**	**1**	**8**	**-1**
71	**focus on different stages of child development in the classroom teaching and field assignments.**	**0**	**0**	**9**	**-1**
72	**appreciate diverse needs of learners and follow various teaching strategies during the period of teaching internship.**	**0**	**0**	**9**	**-1**
73	address learners' diversity by giving information regarding knowledge and implementation of policies on inclusive education.	8	1	0	0.778
74	**guide pupil teachers for organizing games, sports, and demonstration of yogic activities.**	**0**	**1**	**8**	**-1**
IV	**Product -** In the two-year B.Ed. Programme,				
75	The workload has been reduced.	9	0	0	1
76	Academic responsibilities have increased.	9	0	0	1
77	Developed instructional planning skills.	8	1	0	0.778
78	Participation in professional programme increased.	8	1	0	0.778

Sr. No.	Statements	E	U	N	CVR
79	Working more for professional enhancement activities.	9	0	0	1
80	Academic collaboration with colleagues and experts has been enhanced.	9	0	0	1
81	Developed competencies to use e-learning resources in the teaching-learning process.	8	1	0	0.778
82	Evaluation responsibilities have increased.	9	0	0	1
83	Working more for collaboration with NGOs	9	0	0	1
84	Non-academic responsibilities have increased.	9	0	0	1
85	Various library facilities in teaching are used.	8	1	0	0.778
86	Pedagogical competencies have improved.	9	0	0	1
87	Social competencies have improved.	9	0	0	1
88	Develop competencies to design field-based assignments/projects	9	0	0	1
89	Involvement in teaching internship has increased	9	0	0	1
90	Developed skills to design various assessment strategies.	8	1	0	0.778
91	**Exposed to various educational issues.**	**0**	**0**	**9**	**-1**
92	**Various learning resource centers/labs as per the requirement of subject teaching are used.**	**3**	**1**	**5**	**-0.333**
93	**Worked consistently for attaining the different course objectives.**	**1**	**1**	**7**	**-0.778**

Appendix G
Item Evaluation of ESIBP-TEs (p-values)

Sr. No.	Statements	p-value
I	**Context -** The two-year B.Ed. Programme	
1	develops prospective teachers into competent professionals	$p < 0.01$
2	emphasizes the holistic development of prospective teachers	$p < 0.01$
3	develops skills to deal with the diverse problems of classroom	$p < 0.01$
4	focuses upon the practical aspects of the teaching and learning process	$p < 0.01$
5	emphasizes rigorous teaching internship practice	$p < 0.01$
6	links school knowledge with community life	$p < 0.01$
7	increases employment opportunities for prospective teachers	$p < 0.01$
8	develops inclusive competencies to deal with diverse students.	$p < 0.01$
9	prepares humane teachers.	**$p > 0.05$**
10	prepares professional teachers.	**$p > 0.05$**
11	develops academic competencies in pupil teachers.	**$p > 0.05$**
12	develops personal competencies in pupil teachers.	**$p > 0.05$**
13	focuses on the theoretical understanding of stages of human development.	**$p > 0.05$**
II	**Input-** The two year B. Ed. programmme give inputs to	
14	include various subject-specific activities.	$p < 0.01$
15	include subject-specific field-based assignments.	$p < 0.01$
16	execute diverse projects.	$p < 0.01$
17	use different learning resources	$p < 0.01$
18	use modern learning facilitates in classroom teaching.	$p < 0.01$
19	supervise simulated teaching for training in teaching skills.	$p < 0.01$
20	orient pupil teachers as per guidelines of the teaching internship handbook.	$p < 0.01$
21	supervise fieldwork of two weeks in schools.	$p < 0.01$
22	supervise teaching internship of 14 weeks in schools.	$p < 0.01$
23	participate in different professional activities for the enhancement of professional capacities.	$p < 0.01$
24	work in collaborative partnership with the community and NGOs.	$p < 0.01$
25	give extra input for state/center level teacher eligibility test.	$p < 0.01$
26	use rubrics for evaluation.	$p < 0.01$
27	supervise and evaluate the academic work with the help of technology.	$p < 0.01$
28	include courses related to perspectives in education as well as curriculum & pedagogic studies.	**$p > 0.05$**
29	create an inclusive school through the course on diverse education.	**$p > 0.05$**
III	**Process -** In the two years B. Ed. programme, the process is to	
30	use real-life experiences of both pupil teachers and teacher educators in the teaching-learning process.	$p < 0.01$

Sr. No.	Statements	p-value
31	conduct case studies/projects as strategies to sensitize about community	$p < 0.01$
32	discuss detailed evaluation criteria at the beginning of the lesson.	$p < 0.01$
33	apply various formative assessment strategies in evaluation.	$p < 0.01$
34	practice remedial measures as per the need of the students.	$p < 0.01$
35	use an appropriate blend of resources in the teaching-learning process.	$p < 0.01$
36	allocate different academic tasks as per the level of pupil teachers.	$p < 0.01$
37	use rubrics to assess various parameters of teaching internship.	$p < 0.01$
38	give constructive feedback in simulated teaching practice.	$p < 0.01$
39	evaluate classroom lesson delivery of pupil teachers in teaching practice daily.	$p < 0.01$
40	work as a facilitator in field attachment.	$p < 0.01$
41	organize service-learning activities as per the needs of the society.	$p < 0.01$
42	organize community projects in collaboration with NGOs.	$p < 0.01$
43	use different learning resource centers for developing subject-specific competencies.	$p < 0.01$
44	organize workshops/seminars for the professional enhancement of pupil teachers.	$p < 0.01$
45	organize practice sessions for the preparation of the Teacher Eligibility Test.	$p < 0.01$
IV	**Product of the two years B. Ed. programme**	
46	The workload has been reduced.	$p < 0.01$
47	Academic responsibilities have increased.	$p < 0.01$
48	Consult more online resources to prepare instructional inputs	$p < 0.01$
49	Participation in faculty development programmes has increased.	$p < 0.01$
50	Working more for professional enhancement activities.	$p < 0.01$
51	Academic collaboration with colleagues and experts has been enhanced.	$p < 0.01$
52	Develop competencies in using online resources in the teaching-learning process	$p < 0.01$
53	Evaluation responsibilities have increased.	$p < 0.01$
54	Working more for collaboration with NGOs .	$p < 0.01$
55	Non-academic responsibilities have increased.	$p < 0.01$
56	Consult more library resources to prepare instructional inputs	$p < 0.01$
57	Pedagogical competencies have improved.	$p < 0.01$
58	Social competencies have improved.	$p < 0.01$
59	Develop competencies to design field-based assignments/projects.	$p < 0.01$
60	Involvement in teaching internship has increased.	$p < 0.01$
61	Develop skills in designing various assessment strategies .	$p < 0.01$

Appendix H
Exploratory Factor Analysis of ESIBP-TEs

Dimensions	Sr. No.	Statements	Loading
	I	**Context of the B. Ed. Programme**	
		The two-year B.Ed. Programme	
Mission and Vision (MV)	1	develops prospective teachers into competent professionals	0.621
	2	emphasizes the holistic development of prospective teachers	0.744
	3	develops skills to deal with the diverse problems of classroom	0.678
	8	develops inclusive competencies to deal with diverse students.	0.798
Programme Objectives (PO)	4	focuses upon the practical aspects of the teaching and learning process	0.587
	5	emphasizes rigorous teaching internship practice	0.774
	6	links school knowledge with community life	0.864
	7	increases employment opportunities for prospective teachers	0.739
	II	**The input of the B. Ed. programme**	
		The two years B.Ed. programmme give inputs to	
Academic Inputs (AI)	1	include various subject-specific activities.	0.516
	2	include subject-specific field-based assignments.	0.864
Training Inputs (TI)	3	execute diverse projects.	0.653
	6	supervise simulated teaching for training in teaching skills.	0.734
	7	orient pupil teachers as per guidelines of the teaching internship handbook.	0.713
	8	supervise fieldwork of two weeks in schools.	0.728
	9	supervise teaching internship of 14 weeks in schools.	0.861
Resource Inputs (RI)	4	use different learning resources	0.771
	5	use modern learning facilitates in classroom teaching.	0.706
Professional Inputs (PI)	10	participate in different professional activities for the enhancement of professional capacities.	0.597
	11	work in collaborative partnership with the community and NGOs.	0.732
	12	give extra input for state/center level teacher eligibility test.	0.779

Dimensions	Sr. No.	Statements	Loading
Evaluation Inputs (EI)	13	use rubrics for evaluation.	0.681
	14	supervise and evaluate the academic work with the help of technology.	0.762
III		**Process of the B. Ed. Programme**	
		In the two years B. Ed. programme, the process is to	
Pedagogical Process (PDP)	1	use real-life experiences of both pupil teachers and teacher educators in the teaching-learning process.	0.749
	2	conduct case studies/projects as strategies to sensitize about community	0.670
	6	use an appropriate blend of resources in the teaching-learning process.	0.593
	7	allocate different academic tasks as per the level of pupil teachers.	0.696
	14	use different learning resource centers for developing subject-specific competencies.	0.692
Evaluation Process (EP)	3	discuss detailed evaluation criteria at the beginning of the lesson.	0.768
	4	apply various formative assessment strategies in evaluation.	0.674
	5	practice remedial measures as per the need of the students.	0.675
Professional Process (PP)	8	use rubrics to assess various parameters of teaching internship.	0.756
	9	give constructive feedback in simulated teaching practice.	0.582
	10	evaluate classroom lesson delivery of pupil teachers in teaching practice daily.	0.663
	15	organize workshops/seminars for the professional enhancement of pupil teachers.	0.690
	16	organize practice sessions for the preparation of the Teacher Eligibility Test.	0.823
Training Process (TP)	11	work as a facilitator in field attachment.	0.604
	12	organize service-learning activities as per the needs of the society.	0.856
	13	organize community projects in collaboration with NGOs.	0.653
IV		**Product of the B. Ed. Programme**	
Academics and Non-Academic Responsibilities Product (ANARPr)	1	The workload has been reduced.	0.850
	2	Academic responsibilities have increased.	0.681
	6	Academic collaboration with colleagues and experts has been enhanced.	0.840
	10	Non-academic responsibilities have increased.	0.773

Dimensions	Sr. No.	Statements	Loading
Academics and Non-Academic Responsibilities Product (ANARPr)	12	Pedagogical competencies have improved.	0.720
	14	Develop competencies to design field-based assignments/projects	0.727
Resource Consultation Product (RCPr)	3	Consult more online resources to prepare instructional inputs	0.822
	7	Develop competencies in using online resources in the teaching-learning process	0.827
	11	Consult more library resources to prepare instructional inputs	0.531
Professional Training Product (PTPr)	4	Participation in faculty development programmes has increased.	0.530
	5	Working more for professional enhancement activities.	0.624
	15	Involvement in teaching internship has increased	0.705
Evaluation Responsibilities Product (ERPr)	8	Evaluation responsibilities have increased.	0.561
	16	Develop skills in designing various assessment strategies	0.665
Social Responsibilities Product (SRPr)	9	Working more for collaboration with NGOs	0.608
	13	Social competencies have improved.	0.738

Appendix I
Content Validity Ratio of ESIBP-TEs
(Interview Schedule for Teacher Educators)

Sr. No.	Statements	E	U	N	CVR
1	What are the major differences between one year and two years B.Ed. programme?	8	1	0	0.778
2	How have two years B.Ed. programme influenced your workload?	9	0	0	1
3	What is the impact of two years programme on your academic and non-academic responsibilities?	9	0	0	1
4	What types of pressure/new responsibilities are there on your good self relating to the admission of students?	9	0	0	1
5	Earlier you were teaching one session at a time but now there are two sessions simultaneously running. How has it influenced your pedagogical competencies?	8	1	0	0.778
6	How 18 weeks long teaching internship has influenced your supervisory responsibilities?	9	0	0	1
7	Two years B. Ed. programme emphasizes enhancing the professional competencies of the pupil teachers. How has it influenced you?	9	0	0	1
8	There is a focus on the employability of pupil teachers in two years B.Ed. programme. What sort of different initiatives are you taking in this direction?	9	0	0	1
9	How two years B.Ed. programme has influenced your collaboration with your colleagues?	8	1	0	0.778
10	How two years B.Ed. programme has influenced your evaluation work?	8	1	0	0.778
11	How two years B. Ed. programme has influenced your social competencies?	8	1	0	0.778
12	**Do you consider, there is a negative impact of two years B.Ed. on teacher educators? How?**	**0**	**0**	**9**	**-1**
13	How two years B. Ed. programme has influenced your competencies relating to the design of assignments?	8	1	0	0.778
14	**Do you consider two years B.Ed. programme has resulted in the formation of groups among first and second-year students?**	**0**	**0**	**9**	**-1**
15	As a teacher educator, kindly mention any other impact/influence of two years B. Ed. programme on your good self.	9	0	0	1

Appendix J
Evaluation Scale for Impact of B.Ed. Programme for Teacher Educators (ESIBP-TEs)

This scale consists of 54 **statements relating to** *Context, Input, Process*, **and** *Product* **of the two-year B.Ed. programme.** Each statement has *four options e.g. strongly agree (SA), agree (A), disagree (D), or strongly disagree (SD).*

Instructions:

1. Read each statement carefully and encircle one of the four options given against each statement.

2. Your responses will be used only for research purposes.

3. Please respond to each statement.

Statement Code	Sr. No.	Statements	Options			
	I	**Context of the two-year B.Ed. programme**				
		The two-year B.Ed. Programme				
MV_1	1	develops prospective teachers into competent professionals.	SA	A	D	SD
MV_2	2	emphasizes the holistic development of prospective teachers.	SA	A	D	SD
MV_3	3	develops skills to deal with the diverse problems of the classroom.	SA	A	D	SD
MV_4	4	develops inclusive competencies to deal with diverse students.	SA	A	D	SD
PO_1	5	focuses upon the practical aspects of the teaching and learning process.	SA	A	D	SD
PO_2	6	emphasizes rigorous teaching internship practice.	SA	A	D	SD
PO_3	7	links school knowledge with community life.	SA	A	D	SD
PO_4	8	increases employment opportunities for prospective teachers.	SA	A	D	SD
	II	**The input of the two-year B.Ed. programme**				
		In the two-year B.Ed. programme				
AI_1	1	include various subject-specific activities.	SA	A	D	SD
AI_2	2	include subject-specific field-based assignments.	SA	A	D	SD
TI_1	3	execute diverse projects.	SA	A	D	SD
TI_2	4	supervise simulated teaching for training in teaching skills.	SA	A	D	SD
TI_3	5	orient pupil teachers as per guidelines of the teaching internship handbook.	SA	A	D	SD
TI_4	6	supervise fieldwork of two weeks in schools.	SA	A	D	SD
TI_5	7	supervise teaching internship of 14 weeks in schools.	SA	A	D	SD

Statement Code	Sr. No.	Statements	Options			
RI$_1$	8	use different learning resources.	SA	A	D	SD
RI$_2$	9	use modern learning facilitates in classroom teaching.	SA	A	D	SD
PI$_1$	10	participate in different professional activities for the enhancement of professional capacities.	SA	A	D	SD
PI$_2$	11	work in collaborative partnership with the community and NGOs.	SA	A	D	SD
PI$_3$	12	give extra input for state/center level teacher eligibility test.	SA	A	D	SD
EI$_1$	13	use rubrics for evaluation.	SA	A	D	SD
EI$_2$	14	supervise and evaluate the academic work with the help of technology.	SA	A	D	SD
	III	**Process of the two-year B.Ed. programme**				
		In the two-year B.Ed. programme				
PDP$_1$	1	use real-life experiences of both pupil teachers and teacher educators in the teaching-learning process.	SA	A	D	SD
PDP$_2$	2	conduct case studies/projects as strategies to sensitize about community	SA	A	D	SD
PDP$_3$	3	use an appropriate blend of resources in the teaching-learning process.	SA	A	D	SD
PDP$_4$	4	allocate different academic tasks as per the level of pupil teachers.	SA	A	D	SD
PDP$_5$	5	use different learning resource centers for developing subject-specific competencies.	SA	A	D	SD
EP$_1$	6	discuss detailed evaluation criteria at the beginning of the lesson.	SA	A	D	SD
EP$_2$	7	apply various formative assessment strategies in evaluation.	SA	A	D	SD
EP$_3$	8	practice remedial measures as per the need of the students.	SA	A	D	SD
PP$_1$	9	use rubrics to assess various parameters of teaching internship.	SA	A	D	SD
PP$_2$	10	give constructive feedback in simulated teaching practice.	SA	A	D	SD
PP$_3$	11	evaluate classroom lesson delivery of pupil teachers in teaching practice daily.	SA	A	D	SD
PP$_4$	12	organize workshops/seminars for the professional enhancement of pupil teachers.	SA	A	D	SD
PP$_5$	13	organize practice sessions for the preparation of the Teacher Eligibility Test.	SA	A	D	SD
TP$_1$	14	work as a facilitator in field attachment.	SA	A	D	SD
TP$_2$	15	organize service-learning activities as per the	SA	A	D	SD

Statement Code	Sr. No.	Statements	Options			
		needs of the society.				
TP$_3$	16	organize community projects in collaboration with NGOs.	SA	A	D	SD
	IV	**Product of the two-year B.Ed. programme**				
ANARPr$_1$	1	The workload has been reduced.	SA	A	D	SD
ANARPr$_2$	2	Academic responsibilities have increased.	SA	A	D	SD
ANARPr$_3$	3	Academic collaboration with colleagues and experts has been enhanced.	SA	A	D	SD
ANARPr$_4$	4	Non-academic responsibilities have increased.	SA	A	D	SD
ANARPr$_5$	5	Pedagogical competencies have improved.	SA	A	D	SD
ANARPr$_6$	6	Develop competencies to design field-based assignments/projects	SA	A	D	SD
RCPr$_1$	7	Consult more online resources to prepare instructional inputs	SA	A	D	SD
RCPr$_2$	8	Develop competencies in using online resources in the teaching-learning process	SA	A	D	SD
RCPr$_3$	9	Consult more library resources to prepare instructional inputs	SA	A	D	SD
PTPr$_1$	10	Participation in faculty development programmes has increased.	SA	A	D	SD
PTPr$_2$	11	Working more for professional enhancement activities.	SA	A	D	SD
PTPr$_3$	12	Involvement in teaching internship has increased	SA	A	D	SD
ERPr$_1$	13	Evaluation responsibilities have increased.	SA	A	D	SD
ERPr$_2$	14	Develop skills in designing various assessment strategies	SA	A	D	SD
SRPr$_1$	15	Working more for collaboration with NGOs	SA	A	D	SD
SRPr$_2$	16	Social competencies have improved.	SA	A	D	SD

Interview Schedule for Teacher Educators

1. What are the major differences between one year and two years B.Ed. programme?

2. How have two years B.Ed. programme influenced your workload?

3. What is the impact of two years programme on your academic and non-academic responsibilities?

4. What types of pressure/new responsibilities are there on your good self relating to the admission of students?

5. Earlier you were teaching one session at a time but now there are two sessions simultaneously running. How has it influenced your pedagogical competencies?
6. How 18 weeks long teaching internship has influenced your supervisory responsibilities?
7. Two years B. Ed. programme emphasizes enhancing the professional competencies of the pupil teachers. How has it influenced you?
8. There is a focus on the employability of pupil teachers in two years B. Ed. programme. What sort of different initiatives are you taking in this direction?
9. How two years B. Ed. programme has influenced your collaboration with your colleagues?
10. How two years B. Ed. programme has influenced your evaluation work?
11. How two years B. Ed. programme has influenced your social competencies?
12. How two years B.Ed. programme has influenced your competencies relating to the design of assignments?
13. As a teacher educator, kindly mention any other impact/influence of two years B.Ed. programme on your good self.

Please fill in the following information:

Name (optional): _____

Name of College: _____

Gender: _____ (Male/Female)

Residence: _____ (Urban/Rural)

Teaching Experience: _____

Qualification: _____

Specialization: _____

Designation_____

Nature of Job: _____ (Regular/Ad-hoc/Contract/Guest Faculty)

Teaching Load per week: _____

Additional Responsibility:_____

Teaching/Pedagogy Subject(s): _____

Please tick the course/courses from the following list, which you taught in the B.Ed. Programme:

1. Childhood and Growing Up   (____)

2. Learning and Teaching   (____)

3. Assessment for Learning   (____)

4. Gender, School and Society   (____)

5. Understanding the Self   (____)

6. Creative an Inclusive   (____)

7. Language across the Curriculum   (____)

8. Understanding ICT and Its Application   (____)

9. Contemporary India and Education   (____)

10. School Health, Yoga and Physical Education   (____)

11. Any Other _____

Thanks for Your Time and Information

Appendix K
Z-score Norms for ESIBP-TEs

Context		Input		Process		Product		Total	
Raw Score	Z-Score	Raw Score	Z-Score	Raw Score	Z-Score	Raw Score	Z-Score	Raw Score	Z-Score
9	-3.52	27	-2.50	29	-2.61	32	-2.29	102	-2.78
15	-2.14	29	-2.17	32	-2.21	32	-2.29	115	-2.18
16	-1.92	31	-1.85	32	-2.21	33	-2.14	118	-2.04
16	-1.92	31	-1.85	35	-1.81	36	-1.69	123	-1.81
16	-1.92	33	-1.52	36	-1.67	36	-1.69	129	-1.53
17	-1.69	33	-1.52	38	-1.41	36	-1.69	132	-1.40
18	-1.46	34	-1.36	38	-1.41	37	-1.54	133	-1.35
19	-1.23	34	-1.36	38	-1.41	37	-1.54	133	-1.35
19	-1.23	34	-1.36	38	-1.41	37	-1.54	133	-1.35
19	-1.23	34	-1.36	39	-1.27	37	-1.54	135	-1.26
19	-1.23	34	-1.36	39	-1.27	39	-1.23	136	-1.21
20	-1.00	34	-1.36	40	-1.14	39	-1.23	139	-1.07
20	-1.00	34	-1.36	41	-1.01	39	-1.23	139	-1.07
20	-1.00	35	-1.19	41	-1.01	40	-1.08	140	-1.03
20	-1.00	35	-1.19	41	-1.01	41	-0.93	142	-0.94
20	-1.00	36	-1.03	41	-1.01	41	-0.93	142	-0.94
20	-1.00	36	-1.03	42	-0.87	42	-0.78	143	-0.89
21	-0.77	37	-0.87	42	-0.87	42	-0.78	143	-0.89
21	-0.77	37	-0.87	42	-0.87	42	-0.78	143	-0.89
21	-0.77	37	-0.87	42	-0.87	42	-0.78	144	-0.84
21	-0.77	38	-0.70	43	-0.74	42	-0.78	145	-0.80
21	-0.77	38	-0.70	43	-0.74	43	-0.63	145	-0.80
21	-0.77	38	-0.70	43	-0.74	43	-0.63	145	-0.80
22	-0.54	38	-0.70	43	-0.74	43	-0.63	145	-0.80
22	-0.54	39	-0.54	44	-0.60	44	-0.48	146	-0.75
22	-0.54	39	-0.54	44	-0.60	44	-0.48	147	-0.71
22	-0.54	39	-0.54	44	-0.60	44	-0.48	147	-0.71
22	-0.54	39	-0.54	45	-0.47	44	-0.48	148	-0.66
22	-0.54	39	-0.54	45	-0.47	44	-0.48	150	-0.57
22	-0.54	39	-0.54	45	-0.47	44	-0.48	150	-0.57
22	-0.54	39	-0.54	45	-0.47	44	-0.48	152	-0.48
23	-0.31	39	-0.54	45	-0.47	44	-0.48	152	-0.48
23	-0.31	40	-0.38	45	-0.47	44	-0.48	153	-0.43
23	-0.31	40	-0.38	45	-0.47	44	-0.48	153	-0.43
23	-0.31	40	-0.38	45	-0.47	45	-0.32	155	-0.34
23	-0.31	40	-0.38	46	-0.34	45	-0.32	155	-0.34
23	-0.31	41	-0.22	46	-0.34	45	-0.32	155	-0.34

Context		Input		Process		Product		Total	
Raw Score	Z-Score	Raw Score	Z-Score	Raw Score	Raw Score	Z-Score	Raw Score	Z-Score	Raw Score
24	-0.08	41	-0.22	46	-0.34	46	-0.17	155	-0.34
24	-0.08	41	-0.22	46	-0.34	46	-0.17	156	-0.29
24	-0.08	41	-0.22	46	-0.34	46	-0.17	156	-0.29
24	-0.08	41	-0.22	47	-0.20	46	-0.17	157	-0.25
24	-0.08	41	-0.22	47	-0.20	47	-0.02	157	-0.25
24	-0.08	42	-0.05	47	-0.20	47	-0.02	160	-0.11
24	-0.08	42	-0.05	48	-0.07	47	-0.02	160	-0.11
24	-0.08	42	-0.05	48	-0.07	47	-0.02	160	-0.11
24	-0.08	42	-0.05	48	-0.07	47	-0.02	161	-0.06
24	-0.08	42	-0.05	48	-0.07	47	-0.02	163	0.03
24	-0.08	42	-0.05	48	-0.07	47	-0.02	164	0.08
24	-0.08	42	-0.05	48	-0.07	47	-0.02	164	0.08
24	-0.08	42	-0.05	48	-0.07	47	-0.02	164	0.08
24	-0.08	42	-0.05	49	0.06	47	-0.02	164	0.08
24	-0.08	42	-0.05	49	0.06	48	0.13	164	0.08
25	0.15	43	0.11	49	0.06	48	0.13	165	0.12
25	0.15	43	0.11	50	0.20	48	0.13	166	0.17
25	0.15	43	0.11	50	0.20	48	0.13	166	0.17
25	0.15	44	0.27	50	0.20	48	0.13	166	0.17
25	0.15	44	0.27	50	0.20	48	0.13	166	0.17
25	0.15	44	0.27	50	0.20	49	0.28	166	0.17
25	0.15	44	0.27	51	0.33	49	0.28	168	0.26
25	0.15	44	0.27	51	0.33	49	0.28	168	0.26
26	0.38	44	0.27	51	0.33	49	0.28	169	0.31
26	0.38	44	0.27	51	0.33	49	0.28	170	0.35
26	0.38	44	0.27	51	0.33	49	0.28	170	0.35
27	0.61	45	0.44	52	0.46	49	0.28	171	0.40
27	0.61	45	0.44	52	0.46	50	0.43	172	0.44
27	0.61	45	0.44	52	0.46	50	0.43	172	0.44
27	0.61	45	0.44	53	0.60	50	0.43	173	0.49
27	0.61	46	0.60	53	0.60	50	0.43	175	0.58
27	0.61	46	0.60	53	0.60	50	0.43	175	0.58
27	0.61	46	0.60	53	0.60	51	0.58	176	0.63
27	0.61	46	0.60	53	0.60	51	0.58	176	0.63
28	0.84	46	0.60	54	0.73	51	0.58	176	0.63
28	0.84	47	0.76	54	0.73	51	0.58	176	0.63
28	0.84	47	0.76	54	0.73	51	0.58	177	0.67
28	0.84	47	0.76	54	0.73	51	0.58	179	0.77

Context		Input		Process		Product		Total	
Raw Score	**Z-Score**	**Raw Score**	**Z-Score**	**Raw Score**	**Raw Score**	**Z-Score**	**Raw Score**	**Z-Score**	**Raw Score**
28	0.84	48	0.93	55	0.86	52	0.74	179	0.77
28	0.84	48	0.93	55	0.86	53	0.89	180	0.81
28	0.84	49	1.09	55	0.86	53	0.89	181	0.86
28	0.84	49	1.09	56	1.00	53	0.89	183	0.95
29	1.07	49	1.09	56	1.00	53	0.89	186	1.09
29	1.07	49	1.09	56	1.00	54	1.04	186	1.09
29	1.07	49	1.09	57	1.13	54	1.04	187	1.14
29	1.07	49	1.09	57	1.13	54	1.04	188	1.18
29	1.07	50	1.25	58	1.26	54	1.04	188	1.18
29	1.07	50	1.25	58	1.26	54	1.04	192	1.37
29	1.07	50	1.25	58	1.26	54	1.04	192	1.37
30	1.30	51	1.42	58	1.26	55	1.19	194	1.46
30	1.30	51	1.42	59	1.40	56	1.34	196	1.55
31	1.53	52	1.58	60	1.53	56	1.34	196	1.55
31	1.53	52	1.58	60	1.53	58	1.65	196	1.55
32	1.75	52	1.58	61	1.66	60	1.95	197	1.60
32	1.75	52	1.58	61	1.66	60	1.95	199	1.69
32	1.75	53	1.74	62	1.80	60	1.95	199	1.69
32	1.75	53	1.74	63	1.93	61	2.10	201	1.78
32	1.75	54	1.91	64	2.07	61	2.10	205	1.96
32	1.75	56	2.23	64	2.07	63	2.40	210	2.19

Appendix L
Content Validity Ratio of ESIBP-PCE

Sr. No.	Statements	E	U	N	CVR
I	**Context -** The two-year B.Ed. Programme				
1	develops prospective teachers into competent professionals	9	0	0	1
2	emphasizes the holistic development of prospective teachers	9	0	0	1
3	develops skills to deal with the diverse problems of classroom	9	0	0	1
4	focuses upon the practical aspects of the teaching and learning process	9	0	0	1
5	emphasizes rigorous teaching internship practice	9	0	0	1
6	links school knowledge with community life	9	0	0	1
7	increases the employability rate of pupil teachers.	9	0	0	1
8	develops understanding among pupil teachers to deal with diverse students,	9	0	0	1
9	aims to guide pupil teachers for the teaching profession.	8	1	0	0.778
10	exposes pupil teachers with modern learning facilities.	8	1	0	0.778
11	**designs different learning resource centers/labs as per the need of the B. Ed. curriculum.**	**1**	**1**	**7**	**-0.778**
12	provides sufficient time to pupil teachers in attaining knowledge about the essentials of the teaching profession.	8	1	0	0.778
13	develops an understanding of different course objectives among pupil teachers.	8	1	0	0.778
14	unfolds professional competencies in pupil teachers.	8	1	0	0.778
15	prepares humane teachers.	9	0	0	1
16	prepares professional teachers.	9	0	0	1
17	develops/induces ethical standards of the teaching profession in pupil teachers.	8	1	0	0.778
18	develops academic competencies in pupil teachers.	8	1	0	0.778
19	develops personal competencies in pupil teachers.	8	1	0	0.778
20	focuses on the theoretical understanding of stages of human development.	8	1	0	0.778
21	**develops an appreciation for diversities in Indian societies, issues, and policies, incentives, and innovations of Indian education.**	**0**	**4**	**5**	**-1**
22	develops understanding and learning needs of diverse learners and adopts various strategies of teaching accordingly.	8	1	0	0.778

Sr. No.	Statements	E	U	N	CVR
23	**promotes yoga education for keeping good health and physic.**	**2**	**2**	**5**	**-0.556**
24	aims to sensitize pupil teachers for existing language diversity among students in the class.	8	1	0	0.778
25	aims to develop an understanding of key concepts of school subjects and related pedagogical issues.	8	1	0	0.778
II	**Input -** The two-year B.Ed. programmme give inputs to				
26	include all activities of B.Ed. programme in the academic calendar.	9	0	0	1
27	include subject-specific field-based assignments in the curriculum.	9	0	0	1
28	assign diverse projects in B. Ed. programme.	9	0	0	1
29	enrich library resources.	9	0	0	1
30	equip each classroom with modern learning facilities like computer, LCD projector, internet, smartboard, etc. in working condition.	8	1	0	0.778
31	organize practical activities by teacher educators in respective learning resource centers/labs (including math/science/social science/language lab).	8	1	0	0.778
32	teaching skill through simulated teaching.	9	0	0	1
33	organize the teaching internship for preparing professional teachers.	8	1	0	0.778
34	organize fieldwork and teaching internship for developing professional competencies among pupil teachers.	9	0	0	1
35	organize fieldwork and teaching internship for developing personal competencies among pupil teachers.	8	1	0	0.778
36	organize different professional activities for enhancing professional capacities.	9	0	0	1
37	organize community service programme by College/Institute/in collaboration with NGOs for preparing humane teachers.	8	1	0	0.778
38	incorporate the content required for state/center level teacher eligibility test in B. Ed. Curriculum	9	0	0	1
39	plan rubrics for evaluation.	9	0	0	1
40	supervise and evaluate the academic work with the help of technology.	9	0	0	1
41	**initiate in developing an understanding of different course objectives to pupil teachers.**	**3**	**1**	**5**	**-0.333**
42	organize fieldwork for developing ethical standards of the teaching profession among pupil teachers.	8	1	0	0.778
43	train pupil teachers in the effective use of academic resources by teacher educators.	8	1	0	0.778

Sr. No.	Statements	E	U	N	CVR
44	understand the stages of development of the child through the courses of Childhood & Growing up, and understanding the self.	8	1	0	0.778
45	**provide/give a theoretical idea of education through the course of on contemporary India and education**	**0**	**1**	**8**	**-1**
46	teach the diversity of learning needs of learners and various teaching strategies through the course of learning and teaching.	8	1	0	0.778
47	**curriculum construction and transactions through the course on knowledge and curriculum.**	**2**	**3**	**4**	**-0.556**
48	create an inclusive school through the course on diverse education.	8	1	0	0.778
49	**various health and physical education programmes.**	**2**	**1**	**6**	**-0.556**
50	teach key concepts and pedagogical issues in the classes of pedagogy subjects during the first two semesters of B.Ed. programme.	8	1	0	0.778
III	**Process –** In the two years B. Ed. programme, the process is to				
51	recruit the required number of teacher educators.	9	0	0	1
52	organize different academic and non-academic activities as per the academic calendar.	9	0	0	1
53	**discuss evaluation criterion at the beginning of the lesson.**	**0**	**0**	**9**	**-1**
54	**employ various formative assessment strategies in evaluation.**	**1**	**2**	**6**	**-0.778**
55	conduct community service programme by pupil teachers at places assigned by college/institute/NGOs for preparing humane teachers.	8	1	0	0.778
56	**regularly use modern learning facilities like computers, LCD projector, internet, smartboard, etc. by teacher educators during classroom teaching.**	**5**	**1**	**3**	**0.111**
57	conduct service-learning activities in collaboration with the community.	9	0	0	1
58	use feedback from community members and other stakeholders for further programme improvements.	9	0	0	1
59	organize professional enhancement activities.	9	0	0	1
60	provide remedial measures as per the needs of the students.	9	0	0	1
61	carry out field-based assignments based on the guidelines given by respective subject teacher educators to pupil teachers.	8	1	0	0.778

Sr. No.	Statements	E	U	N	CVR
62	organize simulated teaching for developing teaching skills.	9	0	0	1
63	develop professional competencies among pupil teachers in two weeks of fieldwork during the first two semesters and teaching internship during the third semester in schools.	8	1	0	0.778
64	organize the teaching internship in different types of schools.	9	0	0	1
65	organize the rigorous teaching internship for developing professional competencies.	9	0	0	1
66	supervise teaching internship with the help of teacher educators and school teachers.	9	0	0	1
67	organize special sessions/classes in the institute for preparing the pupil teachers for state/center level teacher eligibility test.	9	0	0	1
68	assess on the basis of pre-decided rubrics.	8	1	0	0.778
69	perform practical activities by pupil teachers in respective learning resource centers/labs (including math/science/social science/ language /Psychology /Yoga lab).	9	0	0	1
70	**develop ethical standards of teaching profession among pupil teachers in two weeks of fieldwork during the first two semesters and teaching internship during the third semester in schools.**	**2**	**1**	**6**	**-0.556**
71	**use the information and communication technology resources by teacher educators in classroom teaching for enhancing the academic competencies of pupil teachers.**	**0**	**1**	**8**	**-1**
72	**focus on different stages of child development in the classroom teaching and field assignments.**	**0**	**0**	**9**	**-1**
73	**appreciate diverse needs of learners and follow various teaching strategies during the period of teaching internship.**	**0**	**0**	**9**	**-1**
74	address learners' diversity by giving information regarding knowledge and implementation of policies on inclusive education.	8	1	0	0.778
75	**guide pupil teachers for organizing games, sports, and demonstration of yogic activities.**	**0**	**1**	**8**	**-1**
IV	**Product -** The two-year B.Ed. Programme has				
76	increased the focus on getting admissions.	9	0	0	1
77	increased the focus on teacher requirements.	9	0	0	1
78	increased my supervision work.	9	0	0	1
79	improved my administrative skills.	9	0	0	1
80	developed my management skills.	8	1	0	0.778
81	increased my administrative workload	9	0	0	1

Sr. No.	Statements	E	U	N	CVR
82	increased my academic responsibilities.	9	0	0	1
83	increased my increased collaborations with the community.	9	0	0	1
84	increased my engagement with schools.	9	0	0	1
85	developed competencies to use e-learning resources in the teaching-learning process.	8	1	0	0.778
86	increased my involvement in a teaching internship.	9	0	0	1
87	increased my mentoring/guiding sessions with teacher educators.	9	0	0	1
88	increased my contacts with outside academic experts/professionals.	9	0	0	1
89	developed competencies to use the various modern learning facilities.	8	1	0	0.778
90	developed skills to use various evaluation strategies.	8	1	0	0.778
91	**exposed me to various educational issues.**	**0**	**0**	**9**	**-1**
92	**used various learning resource centers/labs as per the requirement of subject teaching.**	**3**	**2**	**4**	**-0.333**
93	**motivated me to worked consistently for attaining the different course objectives.**	**0**	**0**	**9**	**-1**

Appendix M
Item Evaluation of ESIBP-PCE (p-values)

Sr. No.	Statements	p-value
I	**Context -** The two-year B.Ed. Programme	
1	develops prospective teachers into competent professionals	$p < 0.01$
2	emphasizes the holistic development of prospective teachers	$p < 0.01$
3	develops skills to deal with the diverse problems of classroom	$p < 0.01$
4	focuses upon the practical aspects of the teaching and learning process	$p < 0.01$
5	emphasizes rigorous teaching internship practice	$p < 0.01$
6	links school knowledge with community life	$p < 0.01$
7	increases employment opportunities for prospective teachers	$p < 0.01$
8	develops inclusive competencies to deal with diverse students.	$p < 0.01$
9	prepares humane teachers.	**$p > 0.05$**
10	prepares professional teachers.	**$p > 0.05$**
11	develops academic competencies in pupil teachers.	**$p > 0.05$**
12	develops personal competencies in pupil teachers.	**$p > 0.05$**
13	focuses on the theoretical understanding of stages of human development.	**$p > 0.05$**
II	**Input-** The two-year B.Ed. programmme give inputs to	
14	prepare an academic calendar for B.Ed. programme.	$p < .01$
15	include subject-specific field-based assignments in the curriculum.	$p < .01$
16	include diverse projects in the curriculum.	$p < .01$
17	ensure availability of essential facilities in the library.	$p < .01$
18	ensure availability of modern learning facilitates in classrooms.	$p < .01$
19	set well-equipped learning resource centers/labs as per norms of NCTE.	$p < .01$
20	conduct simulated teaching for training in teaching skills.	$p < .01$
21	design teaching internship handbook.	$p < .01$
22	plan fieldwork of two weeks in schools.	$p < .01$
23	plan rigorous teaching internship of 14 weeks in schools.	$p < .01$
24	organize different professional activities for the enhancement of professional capacities.	$p < .01$
25	establish a collaborative partnership with the community and NGOs.	$p < .01$
26	plan extra input for state/center level teacher eligibility test.	$p < .01$
27	plan rubrics for evaluation.	$p < .01$
28	supervise and evaluate the academic work with the help of technology.	$p < .01$
29	**create an inclusive school through the course on diverse education.**	**$p > 0.05$**
III	**Process -** In the two years B.Ed. programme, the process is to	
30	recruit the required number of teacher educators.	$p < .01$

Sr. No.	Statements	p-value
31	organize different academic and non-academic activities as per the academic calendar.	p < .01
32	organize community projects in collaboration with NGOs.	p < .01
33	organize service-learning programmes as per the need of the community.	p < .01
34	use feedback from community members and other stakeholders for further programme improvements.	p < .01
35	organize workshops and seminars by the expert professionals of the concerned field.	p < .01
36	conduct remedial teaching sessions for below-average pupil teachers.	p < .01
37	plan assignments as case studies and small projects.	p < .01
38	organize simulated teaching for developing teaching skills.	p < .01
39	organize two weeks field visit programme for the understanding school system.	p < .01
40	organize the teaching internship in different types of schools.	p < .01
41	organize the rigorous teaching internship for developing professional competencies.	p < .01
42	supervise teaching internship with the help of teacher educators and school teachers.	p < .01
43	organize regular sessions of the Teacher Eligibility Test.	p < .01
44	use rubrics and the latest evaluation techniques for evaluating the work of pupil teachers.	p < .01
45	utilize resource centers for developing skills in pupil teachers.	p < .01
IV	**Product -** The two-year B.Ed. programme has	
46	increased the focus on getting admissions.	p < .01
47	increased the focus on teacher requirements.	p < .01
48	increased my supervision work.	p < .01
49	improved my administrative skills.	p < .01
50	improved my management skills.	p < .01
51	increased my administrative workload	p < .01
52	increased my academic responsibilities.	p < .01
53	increased my increased collaborations with the community.	p < .01
54	increased my engagement with schools.	p < .01
55	increased my involvement in the teaching internship.	p < .01
56	increased my mentoring/guiding sessions with teacher educators.	p < .01
57	increased my contacts with outside academic experts/professionals.	p < .01
58	developed skills to integrate online resources in the teaching-learning process.	p < .01
59	**developed skills to use various evaluation strategies.**	**p > .05**

Appendix N
Exploratory Factor Analysis of ESIBP-PCE

Dimensions	Sr. No.	Statements	Loading
	I	**Context of the B. Ed. Programme**	
		The two-year B. Ed. Programme	
Mission and Vision (MV)	1	Develops prospective teachers into competent professionals	0.749
	2	Emphasizes the holistic development of prospective teachers	0.780
	3	Develops skills to deal with the diverse problems of classroom	0.743
	8	Develops inclusive competencies to deal with diverse students	0.859
Programme Objectives (PO)	4	Focuses upon the practical aspects of the teaching and learning process	0.594
	5	Emphasizes rigorous teaching internship practice	0.791
	6	Links school knowledge with community life	0.814
	7	Increases employment opportunities for prospective teachers	0.652
	II	**The input of the B. Ed. Programme**	
		The two-year B. Ed. Programme gives inputs to	
Academic and Evaluation Inputs (AEI)	1	Prepare an academic calendar for B.Ed. programme.	0.773
	2	Include subject-specific field-based assignments in the curriculum.	0.658
	3	Include diverse projects in the curriculum.	0.738
	14	Plan rubrics for evaluation.	0.623
	15	Supervise and evaluate the academic work with the help of technology.	0.712
Resource Inputs (RI)	4	Ensure availability of essential facilities in the library.	0.523
	5	Ensure availability of modern learning facilitates in classrooms.	0.600
	6	Set well-equipped learning resource centers/labs as per norms of NCTE.	0.660
Training Inputs (TI)	7	Conduct simulated teaching for training in teaching skills.	0.743
	8	Design teaching internship handbook.	0.646
	9	Plan field work of two weeks in schools.	0.853
	10	Plan rigorous teaching internship of 14 weeks in schools.	0.678
Professional Inputs (PI)	11	Organize different professional activities for the enhancement of professional capacities.	0.652
	12	Establish collaborative partnership with	0.653

Dimensions	Sr. No.	Statements	Loading
Professional Inputs (PI)		community and NGOs.	
	13	Plan extra input for state/center level teacher eligibility test.	0.831
	III	**Process of the B. Ed. Programme**	
		In the two years B. Ed. programme, the process is to	
Administrative and Academic Process (AAP)	1	Recruit the required number of teacher educators.	0.874
	2	Organize different academic and non-academic activities as per the academic calendar.	0.577
	8	Plan assignments as case studies and small projects.	0.809
	16	Utilize resource centers for developing skills in pupil teachers.	0.564
Professional Process (PP)	3	Organize community projects in collaboration with NGOs.	0.764
	4	Organize service-learning programmes as per the need of the community.	0.883
	6	Organize workshops and seminars by the expert professionals of the concerned field.	0.918
	14	Organize regular sessions of the Teacher Eligibility Test.	0.872
Training and Evaluation Process (TEP)	5	Use feedback from community members and other stakeholders for further programme improvements.	0.841
	7	Conduct remedial teaching sessions for below-average pupil teachers.	0.802
	9	Organize simulated teaching for developing teaching skills.	0.788
	10	Organize two weeks field visit programme for the understanding school system.	0.701
	11	Organize the teaching internship in different types of schools.	0.639
	12	Organize the rigorous teaching internship for developing professional competencies.	0.790
	13	Supervise teaching internship with the help of teacher educators and school teachers.	0.801
	15	Use rubrics and the latest evaluation techniques for evaluating the work of pupil teachers.	0.507
	IV	**Product of B.Ed. programme.**	
		The two-year B.Ed. programme has	
Administrative Product (APr)	1	Increased the focus on getting admissions.	*0.724*
	2	Increased the focus on teacher requirements.	0.708
	4	Improved my administrative skills.	0.886
	6	Increased my administrative workload	0.909

Dimensions	Sr. No.	Statements	Loading
Administrative Product (APr)	7	Increased my academic responsibilities.	0.757
Managerial Product (MPr)	3	Increased my supervision work.	0.607
	5	Improved my management skills.	0.837
	8	Increased collaborations with the community.	0.719
Training Product (TPr)	9	Increased engagement with schools.	0.885
	10	Increased involvement in teaching internship.	0.712
	11	Increased mentoring/guiding sessions with teacher educators.	0.896
	12	Increased contacts with outside academic experts/professionals.	0.926

Appendix O
Content Validity Ratio of ESIBP-PCE
(Interview Schedule for Principals/Heads of Colleges/Institutions/Departments of Education)

Sr. No.	Statements	E	U	N	CVR
1	What are the major differences between one year and two years B.Ed. programme?	8	1	0	0.778
2	**How have two years B.Ed. programme influenced your workload?**	**0**	**0**	**9**	**-1**
3	What is the impact of two years programme on your administrative responsibilities?	9	0	0	1
4	**What is the impact of two years programme on your academic and non-academic responsibilities?**	**0**	**0**	**9**	**-1**
5	What types of pressure/new responsibilities are there on your good self relating to the admission of students?	9	0	0	1
6	Earlier you were handling one session at a time but now there are two sessions simultaneously running. How has it influenced your management competencies?	9	0	0	1
7	How 18 weeks long teaching internship has influenced your relational and supervisory responsibilities?	8	1	0	0.778
8	Two years B. Ed. programme emphasizes enhancing the professional competencies of the pupil teachers. How has it influenced you?	9	0	0	1
9	**What types of institutional/management pressure/ responsibilities are there on your good self relating to the retention of students?**	**0**	**0**	**9**	**-1**
10	There is a focus on the employability of pupil teachers in two years B. Ed. programme. What sort of different initiatives are you taking in this direction?	9	0	0	1
11	Two years B. Ed. programme requires more number of teacher educators. What types of challenges are you facing for the same?	9	0	0	1
12	As compared to one year B. Ed. programme, you have to manage more number of staff and students. How do you manage this?	9	0	0	1
13	**Considering both one and two year B. Ed. programme, which is better suited for a Principal of a B.Ed. college?**	**0**	**0**	**9**	**-1**
14	**How do you manage the teaching load with other responsibilities?**	**0**	**0**	**9**	**-1**
15	As a Head/Principal, kindly mention any other impact/influence of two years B. Ed. programme on your good self.	9	0	0	1

Appendix P
Evaluation Scale for Impact of B.Ed. Programme for Principals of Colleges of Education (ESIBP-PCE)

This scale consists of 51 **statements relating to** *Context, Input, Process*, **and** *Product* **of the two-year B.Ed. programme.** Each statement has *four options e.g. strongly agree (SA), agree (A), disagree (D), or strongly disagree (SD).*

Instructions:

1. Read each statement carefully and encircle one of the four options given against each statement.

2. Your responses will be used only for research purposes.

3. Please respond to each statement.

Statement Code	Sr. No.	Statements	Options			
	I	**Context of the two-year B.Ed. programme**				
		The two-year B.Ed. Programme				
MV$_1$	1	develops prospective teachers into competent professionals.	SA	A	D	SD
MV$_2$	2	emphasizes the holistic development of prospective teachers.	SA	A	D	SD
MV$_3$	3	develops skills to deal with the diverse problems of the classroom.	SA	A	D	SD
MV$_4$	4	develops inclusive competencies to deal with diverse students.	SA	A	D	SD
PO$_1$	5	focuses upon the practical aspects of the teaching and learning process.	SA	A	D	SD
PO$_2$	6	emphasizes rigorous teaching internship practice.	SA	A	D	SD
PO$_3$	7	links school knowledge with community life.	SA	A	D	SD
PO$_4$	8	increases employment opportunities for prospective teachers.	SA	A	D	SD
	II	**The input of the two-year B.Ed. programme**				
		The two-year B. Ed. Programme gives inputs to				
AEI$_1$	1	Prepare an academic calendar for B. Ed. programme.	SA	A	D	SD
AEI$_2$	2	Include subject-specific field-based assignments in the curriculum.	SA	A	D	SD
AEI$_3$	3	Include diverse projects in the curriculum.	SA	A	D	SD
AEI$_4$	4	Plan rubrics for evaluation.	SA	A	D	SD
AEI$_5$	5	Supervise and evaluate the academic work with the help of technology.	SA	A	D	SD

Statement Code	Sr. No.	Statements	Options			
RI$_1$	6	Ensure availability of essential facilities in the library.	SA	A	D	SD
RI$_2$	7	Ensure availability of modern learning facilitates in classrooms.	SA	A	D	SD
RI$_3$	8	Set well-equipped learning resource centers/labs as per norms of NCTE.	SA	A	D	SD
TI$_1$	9	Conduct simulated teaching for training in teaching skills.	SA	A	D	SD
TI$_2$	10	Design teaching internship handbook.	SA	A	D	SD
TI$_3$	11	Plan field work of two weeks in schools.	SA	A	D	SD
TI$_4$	12	Plan rigorous teaching internship of 14 weeks in schools.	SA	A	D	SD
PI$_1$	13	Organize different professional activities for the enhancement of professional capacities.	SA	A	D	SD
PI$_2$	14	Establish collaborative partnerships with the community and NGOs.	SA	A	D	SD
PI$_3$	15	Plan extra input for state/center level teacher eligibility test.	SA	A	D	SD
	III	**Process of the two-year B.Ed. programme**				
		In the two years B. Ed. programme, the process is to				
AAP$_1$	1	Recruit the required number of teacher educators.	SA	A	D	SD
AAP$_2$	2	Organize different academic and non-academic activities as per the academic calendar.	SA	A	D	SD
AAP$_3$	3	Plan assignments as case studies and small projects.	SA	A	D	SD
AAP$_4$	4	Utilize resource centers for developing skills in pupil teachers.	SA	A	D	SD
PP$_1$	5	Organize community projects in collaboration with NGOs.	SA	A	D	SD
PP$_2$	6	Organize service-learning programmes as per the need of the community.	SA	A	D	SD
PP$_3$	7	Organize workshops and seminars by the expert professionals of the concerned field.	SA	A	D	SD
PP$_4$	8	Organize regular sessions of the Teacher Eligibility Test.	SA	A	D	SD
TEP$_1$	9	Use feedback from community members and other stakeholders for further programme improvements.	SA	A	D	SD
TEP$_2$	10	Conduct remedial teaching sessions for below-average pupil teachers.	SA	A	D	SD

Statement Code	Sr. No.	Statements	Options			
TEP$_3$	11	Organize simulated teaching for developing teaching skills.	SA	A	D	SD
TEP$_4$	12	Organize two weeks field visit programme for the understanding school system.	SA	A	D	SD
TEP$_5$	13	Organize the teaching internship in different types of schools.	SA	A	D	SD
TEP$_6$	14	Organize the rigorous teaching internship for developing professional competencies.	SA	A	D	SD
TEP$_7$	15	Supervise teaching internship with the help of teacher educators and school teachers.	SA	A	D	SD
TEP$_8$	16	Use rubrics and the latest evaluation techniques for evaluating the work of pupil teachers.	SA	A	D	SD
	IV	**Product of the two-year B.Ed. programme**				
		The two-year B.Ed. programme has				
APr$_1$	1	Increased the focus on getting admissions.	SA	A	D	SD
APr$_2$	2	Increased the focus on teacher requirements.	SA	A	D	SD
APr$_3$	3	Improved my administrative skills.	SA	A	D	SD
APr$_4$	4	Increased my administrative workload	SA	A	D	SD
APr$_5$	5	Increased my academic responsibilities.	SA	A	D	SD
MPr$_1$	6	Increased my supervision work.	SA	A	D	SD
MPr$_2$	7	Improved my management skills.	SA	A	D	SD
MPr$_3$	8	Increased collaborations with the community.	SA	A	D	SD
TPr$_1$	9	Increased engagement with schools.	SA	A	D	SD
TPr$_2$	10	Increased involvement in teaching internship.	SA	A	D	SD
TPr$_3$	11	Increased mentoring/guiding sessions with teacher educators.	SA	A	D	SD
TPr$_4$	12	Increased contacts with outside academic experts/professionals.	SA	A	D	SD

Interview Schedule for Principals of Colleges of Education

1. What are the major differences between one year and two years B.Ed. programme?

2. What is the impact of two years programme on your administrative responsibilities?

3. What types of pressure/new responsibilities are there on your good self relating to the admission of students?

4. Earlier you were handling one session at a time but now there are two sessions simultaneously running. How has it influenced your management competencies?
5. How 18 weeks long teaching internship has influenced your relational and supervisory responsibilities?
6. Two years B. Ed. programme emphasizes enhancing the professional competencies of the pupil teachers. How has it influenced you?
7. There is a focus on the employability of pupil teachers in two years B. Ed. programme. What sort of different initiatives are you taking in this direction?
8. Two years B. Ed. programme requires more number of teacher educators. What types of challenges are you facing for the same?
9. As compared to one year B. Ed. programme, you have to manage more number of staff and students. How do you manage this?
10. As a principal, kindly mention any other impact/influence of two years B. Ed. programme on your good self.

Please fill in the following information:

Name (optional): _____

Name of College: _____

Gender: _____ (Male/Female)

Residence: _____ (Urban/Rural)

Teaching Experience: _____

Administrative Experience: _____

Qualification: _____

Specialization: _____

Thanks for Your Time and Information

Appendix Q

Z-score Norms for ESIBP-PCE

Context		Input		Process		Product		Total	
Raw Score	Z-Score	Raw Score	Z-Score	Raw Score	Z-Score	Raw Score	Z-Score	Raw Score	Z-Score
19	-1.86	34	-2.10	34	-2.60	27	-2.22	129	-1.90
21	-1.27	38	-1.48	43	-1.31	28	-1.98	130	-1.84
21	-1.27	39	-1.32	43	-1.31	32	-1.03	144	-1.02
21	-1.27	40	-1.17	45	-1.02	32	-1.03	148	-0.79
22	-0.98	43	-0.70	47	-0.74	32	-1.03	149	-0.73
22	-0.98	43	-0.70	47	-0.74	33	-0.79	149	-0.73
23	-0.69	44	-0.55	48	-0.59	34	-0.56	152	-0.55
23	-0.69	45	-0.39	48	-0.59	34	-0.56	152	-0.55
24	-0.39	45	-0.39	48	-0.59	35	-0.32	152	-0.55
24	-0.39	45	-0.39	50	-0.31	35	-0.32	154	-0.43
24	-0.39	46	-0.24	50	-0.31	35	-0.32	154	-0.43
24	-0.39	47	-0.08	52	-0.02	36	-0.08	157	-0.26
25	-0.10	47	-0.08	52	-0.02	36	-0.08	157	-0.26
25	-0.10	47	-0.08	53	0.12	36	-0.08	158	-0.20
26	0.19	47	-0.08	53	0.12	37	0.15	158	-0.20
26	0.19	48	0.07	53	0.12	39	0.63	162	0.04
26	0.19	48	0.07	54	0.27	39	0.63	162	0.04
27	0.48	49	0.23	55	0.41	39	0.63	166	0.27
28	0.77	50	0.38	58	0.84	39	0.63	171	0.56
28	0.77	51	0.54	58	0.84	39	0.63	178	0.98
29	1.07	54	1.00	59	0.98	39	0.63	182	1.21
29	1.07	54	1.00	59	0.98	40	0.86	183	1.27
30	1.36	56	1.31	59	0.98	40	0.86	184	1.33
30	1.36	56	1.31	62	1.41	42	1.34	185	1.39
30	1.36	60	1.93	62	1.41	43	1.58	188	1.56
32	1.94	60	1.93	64	1.70	44	1.81	192	1.80

Appendix R
Institutional Data Report

Instructions: - Kindly fill in Parts A to E concerning institutional information.

General Information

Name of College: _____ **Type of College (Govt./Aided/Private):** _____

Affiliated University: _____ **State:** _____ **Year of establishment** _____

Part-A: Admissions of Students

Sr. No.	Year of Admission	Number of Students Admitted	Total Intake/Sanctioned seats
1	2013		
2	2014		
3	2015		
4	2016		
5	2017		
6	2018		

Part-B: Financial Management

Sr. No.	Category	Yes/No
1	Students Fee	
2	Donation	
3	Any other	

Part-C: Institutional Resources

Sr. No.	Resource Centre	Weekly Load	Sr. No.	Resource Centre	Weekly Load
1			6		
2			7		
3			8		
4			9		
5			10		

Part-D: Detail related to Accreditation

Name of the Accreditation Agency-_____

Year/Years of Accreditation -_____

Grade after Accreditation – _____

Part-E: Detail related to Teaching and Non-Teaching Staff

Total number of approved/sanctioned Posts in your college – For Teaching Staff: _____ and For Non-Teaching:_____

Sr. No.	Name	Gender	Nature of Post	Qualification	Subject	Experience	Weekly Teaching Load	Additional Responsibility
1								
2								
3								
4								
5								
6								
7								
8								

Thanks for your Time and Information

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Appendix S - 1
Statementwise Observed Frequencies and Percentages of Pupil Teachers corresponding to
Four Options of ESIBP-PTs with respect to State

Sr. No.	Statement Code	State	SD		D		A		SA	
			N	%	N	%	N	%	N	%
1.	MV$_1$	HP [a]	0	0.0	7	3.1	144	64.6	72	32.3
		HR [b]	6	1.0	10	1.7	282	49.3	274	47.9
		PB [c]	2	0.3	18	2.8	411	64.1	210	32.8
2.	MV$_2$	HP [a]	1	0.4	19	8.5	141	63.2	62	27.8
		HR [b]	8	1.4	42	7.3	327	57.2	195	34.1
		PB [c]	5	0.8	26	4.1	416	64.9	194	30.3
3.	MV$_3$	HP [a]	3	1.3	12	5.4	110	49.3	98	43.9
		HR [b]	9	1.6	42	7.3	310	54.2	211	36.9
		PB [c]	6	0.9	35	5.5	339	52.9	261	40.7
4.	MV$_4$	HP [a]	4	1.8	12	5.4	136	61.0	71	31.8
		HR [b]	21	3.7	54	9.4	305	53.3	192	33.6
		PB [c]	8	1.2	54	8.4	375	58.5	204	31.8
5.	PO$_1$	HP [a]	6	2.7	9	4.0	120	53.8	88	39.5
		HR [b]	12	2.1	53	9.3	304	53.1	203	35.5
		PB [c]	8	1.2	40	6.2	350	54.6	243	37.9
6.	PO$_2$	HP [a]	2	0.9	15	6.7	140	62.8	66	29.6
		HR [b]	14	2.4	63	11.0	321	56.1	174	30.4
		PB [c]	6	0.9	55	8.6	372	58.0	208	32.4
7.	PO$_3$	HP [a]	0	0.0	12	5.4	144	64.6	67	30.0
		HR [b]	14	2.4	51	8.9	295	51.6	212	37.1
		PB [c]	3	0.5	34	5.3	360	56.2	244	38.1
8.	PO$_4$	HP [a]	8	3.6	25	11.2	135	60.5	55	24.7
		HR [b]	21	3.7	59	10.3	294	51.4	198	34.6
		PB [c]	20	3.1	84	13.1	351	54.8	186	29.0
9.	AI$_1$	HP [a]	10	4.5	46	20.6	117	52.5	50	22.4
		HR [b]	18	3.1	64	11.2	272	47.6	218	38.1
		PB [c]	7	1.1	77	12.0	350	54.6	207	32.3
10.	AI$_2$	HP [a]	12	5.4	37	16.6	121	54.3	53	23.8
		HR [b]	11	1.9	57	10.0	346	60.5	158	27.6
		PB [c]	5	0.8	53	8.3	391	61.0	192	30.0
11.	AI$_3$	HP [a]	18	8.1	42	18.8	137	61.4	26	11.7
		HR [b]	37	6.5	55	9.6	279	48.8	201	35.1
		PB [c]	19	3.0	47	7.3	403	62.9	172	26.8
12.	RI$_1$	HP [a]	23	10.3	39	17.5	102	45.7	59	26.5
		HR [b]	16	2.8	73	12.8	233	40.7	250	43.7
		PB [c]	8	1.2	60	9.4	295	46.0	278	43.4
13.	RI$_2$	HP [a]	44	19.7	70	31.4	79	35.4	30	13.5
		HR [b]	38	6.6	69	12.1	280	49.0	185	32.3
		PB [c]	31	4.8	40	6.2	353	55.1	217	33.9

Sr. No.	Statement Code	State	SD N	SD %	D N	D %	A N	A %	SA N	SA %
14.	RI[3]	HP [a]	55	24.7	51	22.9	83	37.2	34	15.2
		HR [b]	16	2.8	61	10.7	292	51.0	203	35.5
		PB [c]	21	3.3	54	8.4	367	57.3	199	31.0
15.	TI[1]	HP [a]	2	0.9	10	4.5	132	59.2	79	35.4
		HR [b]	15	2.6	55	9.6	308	53.8	194	33.9
		PB [c]	5	0.8	31	4.8	387	60.4	218	34.0
16.	TI[2]	HP [a]	8	3.6	20	9.0	140	62.8	55	24.7
		HR [b]	21	3.7	46	8.0	293	51.2	212	37.1
		PB [c]	8	1.2	63	9.8	353	55.1	217	33.9
17.	TI[3]	HP [a]	4	1.8	29	13.0	126	56.5	64	28.7
		HR [b]	22	3.8	39	6.8	307	53.7	204	35.7
		PB [c]	10	1.6	39	6.1	339	52.9	253	39.5
18.	TI[4]	HP [a]	20	9.0	50	22.4	116	52.0	37	16.6
		HR [b]	19	3.3	82	14.3	266	46.5	205	35.8
		PB [c]	16	2.5	101	15.8	304	47.4	220	34.3
19.	TI[5]	HP [a]	2	0.9	12	5.4	115	51.6	94	42.2
		HR [b]	33	5.8	44	7.7	269	47.0	226	39.5
		PB [c]	9	1.4	29	4.5	303	47.3	300	46.8
20.	TI[6]	HP [a]	37	16.6	71	31.8	88	39.5	27	12.1
		HR [b]	33	5.8	114	19.9	263	46.0	162	28.3
		PB [c]	39	6.1	134	20.9	327	51.0	141	22.0
21.	PI[1]	HP [a]	30	13.5	52	23.3	111	49.8	30	13.5
		HR [b]	29	5.1	46	8.0	269	47.0	228	39.9
		PB [c]	4	0.6	26	4.1	369	57.6	242	37.8
22.	PI[2]	HP [a]	13	5.8	54	24.2	132	59.2	24	10.8
		HR [b]	11	1.9	66	11.5	313	54.7	182	31.8
		PB [c]	10	1.6	99	15.4	370	57.7	162	25.3
23.	CTP[1]	HP [a]	3	1.3	7	3.1	124	55.6	89	39.9
		HR [b]	8	1.4	36	6.3	268	46.9	260	45.5
		PB [c]	5	0.8	25	3.9	344	53.7	267	41.7
24.	CTP[2]	HP [a]	19	8.5	50	22.4	115	51.6	39	17.5
		HR [b]	15	2.6	67	11.7	299	52.3	191	33.4
		PB [c]	14	2.2	79	12.3	386	60.2	162	25.3
25.	CTP[3]	HP [a]	56	25.1	70	31.4	61	27.4	36	16.1
		HR [b]	26	4.5	88	15.4	266	46.5	192	33.6
		PB [c]	24	3.7	110	17.2	336	52.4	171	26.7
26.	CTP[4]	HP [a]	18	8.1	73	32.7	108	48.4	24	10.8
		HR [b]	13	2.3	47	8.2	289	50.5	223	39.0
		PB [c]	9	1.4	91	14.2	385	60.1	156	24.3
27.	CTP[5]	HP [a]	4	1.8	9	4.0	94	42.2	116	52.0
		HR [b]	12	2.1	56	9.8	305	53.3	199	34.8
		PB [c]	7	1.1	42	6.6	359	56.0	233	36.3

Sr. No.	Statement Code	State	SD		D		A		SA	
			N	%	N	%	N	%	N	%
28.	CTP$_6$	HP [a]	8	3.6	29	13.0	120	53.8	66	29.6
		HR [b]	17	3.0	90	15.7	265	46.3	200	35.0
		PB [c]	12	2.0	98	15.0	363	57.0	169	26.0
29.	CTP$_7$	HP [a]	8	3.6	13	5.8	105	47.1	97	43.5
		HR [b]	15	2.6	49	8.6	292	51.0	216	37.8
		PB [c]	8	1.2	24	3.7	363	56.6	246	38.4
30.	PP$_1$	HP [a]	7	3.1	41	18.4	125	56.1	50	22.4
		HR [b]	10	2.0	69	12.0	331	58.0	163	28.0
		PB [c]	9	1.4	84	13.1	384	59.9	164	25.6
31.	PP$_2$	HP [a]	14	6.3	41	18.4	105	47.1	63	28.3
		HR [b]	16	2.8	58	10.1	273	47.7	225	39.3
		PB [c]	3	0.5	57	8.9	353	55.1	228	35.6
32.	PP$_3$	HP [a]	19	8.5	59	26.5	118	52.9	27	12.1
		HR [b]	22	3.8	76	13.3	309	54.0	165	28.8
		PB [c]	5	0.8	60	9.4	401	62.6	175	27.3
33.	PP$_4$	HP [a]	38	17.0	45	20.2	103	46.2	37	16.6
		HR [b]	30	5.2	96	16.8	259	45.3	187	32.7
		PB [c]	42	6.6	106	16.5	351	54.8	142	22.2
34.	TP$_1$	HP [a]	5	2.2	18	8.1	121	54.3	79	35.4
		HR [b]	20	3.5	65	11.4	323	56.5	164	28.7
		PB [c]	6	0.9	51	8.0	398	62.1	186	29.0
35.	TP$_2$	HP [a]	18	8.1	75	33.6	108	48.4	22	9.9
		HR [b]	17	3.0	68	11.9	335	58.6	152	26.6
		PB [c]	10	1.6	75	11.7	421	65.7	135	21.1
36.	TP$_3$	HP [a]	46	20.6	90	40.4	67	30.0	20	9.0
		HR [b]	30	5.2	133	23.3	272	47.6	137	24.0
		PB [c]	21	3.3	145	22.6	346	54.0	129	20.1
37.	AP$_1$	HP [a]	14	6.3	52	23.3	125	56.1	32	14.3
		HR [b]	17	3.0	88	15.4	320	55.9	147	25.7
		PB [c]	9	1.4	38	5.9	416	64.9	178	27.8
38.	AP$_2$	HP [a]	27	12.1	66	29.6	115	51.6	15	6.7
		HR [b]	22	3.8	94	16.4	278	48.6	178	31.1
		PB [c]	7	1.1	90	14.0	415	64.7	129	20.1
39.	EP$_1$	HP [a]	12	5.4	41	18.4	129	57.8	41	18.4
		HR [b]	17	3.0	78	13.6	291	50.9	186	32.5
		PB [c]	3	0.5	71	11.1	406	63.3	161	25.1
40.	EP$_2$	HP [a]	8	3.6	40	17.9	143	64.1	32	14.3
		HR [b]	10	1.7	74	12.9	308	53.8	180	31.5
		PB [c]	5	0.8	50	7.8	441	68.8	145	22.6
41.	EP$_3$	HP [a]	14	6.3	38	17.0	154	69.1	17	7.6
		HR [b]	21	3.7	99	17.3	306	53.5	146	25.5
		PB [c]	16	2.5	113	17.6	386	60.2	126	19.7

Sr. No.	Statement Code	State	SD		D		A		SA	
			N	%	N	%	N	%	N	%
42.	PCPr$_1$	HP [a]	3	1.3	17	7.6	151	67.7	52	23.3
		HR [b]	11	1.9	37	6.5	295	51.6	229	40.0
		PB [c]	3	0.5	34	5.3	395	61.6	209	32.6
43.	PCPr$_2$	HP [a]	9	4.0	32	14.3	132	59.2	50	22.4
		HR [b]	19	3.3	84	14.7	269	47.0	200	35.0
		PB [c]	9	1.4	81	12.6	361	56.3	190	29.6
44.	PCPr$_3$	HP [a]	4	1.8	16	7.2	131	58.7	72	32.3
		HR [b]	12	2.1	31	5.4	313	54.7	216	37.8
		PB [c]	1	0.2	25	3.9	379	59.1	236	36.8
45.	PCPr$_4$	HP [a]	4	1.8	17	7.6	155	69.5	47	21.1
		HR [b]	10	1.7	47	8.2	296	51.7	219	38.3
		PB [c]	5	0.8	29	4.5	390	60.8	217	33.9
46.	PCPr$_5$	HP [a]	7	3.1	34	15.2	145	65.0	37	16.6
		HR [b]	14	2.4	70	12.2	298	52.1	190	33.2
		PB [c]	7	1.1	48	7.5	397	61.9	189	29.5
47.	PCPr$_6$	HP [a]	5	2.2	34	15.2	153	68.6	31	13.9
		HR [b]	17	3.0	55	9.6	305	53.3	195	34.1
		PB [c]	8	1.2	46	7.2	396	61.8	191	29.8
48.	PCPr$_7$	HP [a]	1	0.4	22	9.9	152	68.2	48	21.5
		HR [b]	12	2.1	47	8.2	340	59.4	173	30.2
		PB [c]	5	0.8	34	5.3	399	62.2	203	31.7
49.	PCPr$_8$	HP [a]	1	0.4	14	6.3	132	59.2	76	34.1
		HR [b]	12	2.1	42	7.3	290	50.7	228	39.9
		PB [c]	2	0.3	16	2.5	384	59.9	239	37.3
50.	ICPr$_1$	HP [a]	5	2.2	9	4.0	134	60.1	75	33.6
		HR [b]	7	1.2	39	6.8	337	58.9	189	33.0
		PB [c]	0	0.0	25	3.9	371	57.9	245	38.2
51.	ICPr$_2$	HP [a]	5	2.2	26	11.7	143	64.1	49	22.0
		HR [b]	14	2.4	56	9.8	332	58.0	170	29.7
		PB [c]	2	0.3	56	8.7	381	59.4	202	31.5
52.	TECPr$_1$	HP [a]	1	0.4	8	3.6	123	55.2	91	40.8
		HR [b]	17	3.0	44	7.7	304	53.1	207	36.2
		PB [c]	2	0.3	37	5.8	384	59.9	218	34.0
53.	TECPr$_2$	HP [a]	21	9.4	59	26.5	108	48.4	35	15.7
		HR [b]	14	2.4	63	11.0	278	48.6	217	37.9
		PB [c]	10	1.6	79	12.3	351	54.8	201	31.4
54.	TECPr3	HP [a]	3	1.3	14	6.3	151	67.7	55	24.7
		HR [b]	21	3.7	49	8.6	333	58.2	169	29.5
		PB [c]	3	0.5	32	5.0	420	65.5	186	29.0
55.	TECPr$_4$	HP [a]	11	4.9	45	20.2	123	55.2	44	19.7
		HR [b]	9	1.6	65	11.4	322	56.3	176	30.8
		PB [c]	4	0.6	42	6.6	399	62.2	196	30.6

Sr. No.	Statement Code	State	SD		D		A		SA	
			N	%	N	%	N	%	N	%
56.	TECPr$_5$	HP [a]	8	3.6	26	11.7	123	55.2	66	29.6
		HR [b]	10	1.7	53	9.3	296	51.7	213	37.2
		PB [c]	4	0.6	28	4.4	402	62.7	207	32.3
57.	TECPr$_6$	HP [a]	6	2.7	19	8.5	140	62.8	58	26.0
		HR [b]	5	0.9	35	6.1	303	53.0	229	40.0
		PB [c]	1	0.2	27	4.2	403	62.9	210	32.8

Note- SD=Strongly Disagree; D=Disagree; A=Agree; and SA=Strongly Agree.
HP = Himachal Pradesh; HR = Haryana; and PB = Punjab.
n [a] = 223, n [b] = 572 and n [c] = 641.

Appendix S - II

Statementwise Observed Frequencies and Percentages of Pupil Teachers corresponding to Four Options of ESIBP-PTs with respect to University

Sr. No.	Statement Code	University	SD		D		A		SA	
			N	%	N	%	N	%	N	%
1.	MV$_1$	SGU [a]	6	0.5	34	2.6	749	58.2	497	38.6
		PU [b]	2	1.3	1	0.7	88	58.7	59	39.3
2.	MV$_2$	SGU [a]	14	1.1	83	6.5	795	61.8	394	30.6
		PU [b]	0	0.0	4	2.7	89	59.3	57	38.0
3.	MV$_3$	SGU [a]	18	1.4	84	6.5	686	53.3	498	38.7
		PU [b]	0	0.0	5	3.3	73	48.7	72	48.0
4.	MV$_4$	SGU [a]	33	2.6	112	8.7	731	56.8	410	31.9
		PU [b]	0	0.0	8	5.3	85	56.7	57	38.0
5.	PO$_1$	SGU [a]	26	2.0	97	7.5	692	53.8	471	36.6
		PU [b]	0	0.0	5	3.3	82	54.7	63	42.0
6.	PO$_2$	SGU [a]	22	1.7	124	9.6	739	57.5	401	31.2
		PU [b]	0	0.0	9	6.0	94	62.7	47	31.3
7.	PO$_3$	SGU [a]	17	1.3	91	7.1	734	57.1	444	34.5
		PU [b]	0	0.0	6	4.0	65	43.3	79	52.7
8.	PO$_4$	SGU [a]	49	3.8	158	12.3	696	54.1	383	29.8
		PU [b]	0	0.0	10	6.7	84	56.0	56	37.3
9.	AI$_1$	SGU [a]	35	2.7	178	13.8	654	50.9	419	32.6
		PU [b]	0	0.0	9	6.0	85	56.7	56	37.3
10.	AI$_2$	SGU [a]	28	2.2	140	10.9	763	59.3	355	27.6
		PU [b]	0	0.0	7	4.7	95	63.3	48	32.0
11.	AI$_3$	SGU [a]	67	5.2	138	10.7	735	57.2	346	26.9
		PU [b]	7	4.7	6	4.0	84	56.0	53	35.3
12.	RI$_1$	SGU [a]	44	3.4	163	12.7	554	43.1	525	40.8
		PU [b]	3	2.0	9	6.0	76	50.7	62	41.3
13.	RI$_2$	SGU [a]	109	8.5	172	13.4	628	48.8	377	29.3
		PU [b]	4	2.7	7	4.7	84	56.0	55	36.7
14.	RI$_3$	SGU [a]	90	7.0	156	12.1	656	51.0	384	29.9
		PU [b]	2	1.3	10	6.7	86	57.3	52	34.7
15.	TI$_1$	SGU [a]	22	1.7	92	7.2	735	57.2	437	34.0
		PU [b]	0	0.0	4	2.7	92	61.3	54	36.0
16.	TI$_2$	SGU [a]	35	2.7	120	9.3	703	54.7	428	33.3
		PU [b]	2	1.3	9	6.0	83	55.3	56	37.3
17.	TI$_3$	SGU [a]	32	2.5	104	8.1	683	53.1	467	36.3
		PU [b]	4	2.7	3	2.0	89	59.3	54	36.0
18.	TI$_4$	SGU [a]	53	4.1	220	17.1	606	47.1	407	31.6
		PU [b]	2	1.3	13	8.7	80	53.3	55	36.7
19.	TI$_5$	SGU [a]	42	3.3	78	6.1	596	46.3	570	44.3
		PU [b]	2	1.3	7	4.7	91	60.7	50	33.3

Sr. No.	Statement Code	University	SD N	SD %	D N	D %	A N	A %	SA N	SA %
20.	TI$_6$	SGU [a]	107	8.3	306	23.8	594	46.2	279	21.7
		PU [b]	2	1.3	13	8.7	84	56.0	51	34.0
21.	PI$_1$	SGU [a]	62	4.8	118	9.2	665	51.7	441	34.3
		PU [b]	1	0.7	6	4.0	84	56.0	59	39.3
22.	PI$_2$	SGU [a]	34	2.6	208	16.2	723	56.2	321	25.0
		PU [b]	0	0.0	11	7.3	92	61.3	47	31.3
23.	CTP$_1$	SGU [a]	15	1.2	60	4.7	652	50.7	559	43.5
		PU [b]	1	0.7	8	5.3	84	56.0	57	38.0
24.	CTP$_2$	SGU [a]	46	3.6	192	14.9	708	55.1	340	26.4
		PU [b]	2	1.3	4	2.7	92	61.3	52	34.7
25.	CTP$_3$	SGU [a]	103	8.0	259	20.1	578	44.9	346	26.9
		PU [b]	3	2.0	9	6.0	85	56.7	53	35.3
26.	CTP$_4$	SGU [a]	39	3.0	203	15.8	697	54.2	347	27.0
		PU [b]	1	0.7	8	5.3	85	56.7	56	37.3
27.	CTP$_5$	SGU [a]	22	1.7	101	7.9	684	53.2	479	37.2
		PU [b]	1	0.7	6	4.0	74	49.3	69	46.0
28.	CTP$_6$	SGU [a]	36	2.8	203	15.8	662	51.5	385	29.9
		PU [b]	1	0.7	14	9.3	86	57.3	49	32.7
29.	CTP$_7$	SGU [a]	30	2.3	79	6.1	668	51.9	509	39.6
		PU [b]	1	0.7	7	4.7	92	61.3	50	33.3
30.	PP$_1$	SGU [a]	23	1.8	179	13.9	752	58.5	332	25.8
		PU [b]	3	2.0	14	9.3	88	58.7	45	30.0
31.	PP$_2$	SGU [a]	33	2.6	143	11.1	657	51.1	453	35.2
		PU [b]	0	0.0	13	8.7	74	49.3	63	42.0
32.	PP$_3$	SGU [a]	45	3.5	190	14.8	727	56.5	324	25.2
		PU [b]	1	0.7	5	3.3	101	67.3	43	28.7
33.	PP$_4$	SGU [a]	107	8.3	238	18.5	631	49.1	310	24.1
		PU [b]	3	2.0	9	6.0	82	54.7	56	37.3
34.	TP$_1$	SGU [a]	30	2.3	128	10.0	758	58.9	370	28.8
		PU [b]	1	0.7	6	4.0	84	56.0	59	39.3
35.	TP$_2$	SGU [a]	43	3.3	207	16.1	774	60.2	262	20.4
		PU [b]	2	1.3	11	7.3	90	60.0	47	31.3
36.	TP$_3$	SGU [a]	94	7.3	348	27.1	613	47.7	231	18.0
		PU [b]	3	2.0	20	13.3	72	48.0	55	36.7
37.	AP$_1$	SGU [a]	40	3.1	166	12.9	765	59.5	315	24.5
		PU [b]	0	0.0	12	8.0	96	64.0	42	28.0
38.	AP$_2$	SGU [a]	56	4.4	234	18.2	714	55.5	282	21.9
		PU [b]	0	0.0	16	10.7	94	62.7	40	26.7
39.	EP$_1$	SGU [a]	29	2.3	178	13.8	742	57.7	337	26.2
		PU [b]	3	2.0	12	8.0	84	56.0	51	34.0
40.	EP$_2$	SGU [a]	22	1.7	159	12.4	795	61.8	310	24.1
		PU [b]	1	0.7	5	3.3	97	64.7	47	31.3

Sr. No.	Statement Code	University	SD		D		A		SA	
			N	%	N	%	N	%	N	%
41.	EP$_3$	SGU [a]	51	4.0	239	18.6	743	57.8	253	19.7
		PU [b]	0	0.0	11	7.3	103	68.7	36	24.0
42.	PCPr$_1$	SGU [a]	17	1.3	86	6.7	756	58.8	427	33.2
		PU [b]	0	0.0	2	1.3	85	56.7	63	42.0
43.	PCPr$_2$	SGU [a]	35	2.7	190	14.8	674	52.4	387	30.1
		PU [b]	2	1.3	7	4.7	88	58.7	53	35.3
44.	PCPr$_3$	SGU [a]	17	1.3	69	5.4	747	58.1	453	35.2
		PU [b]	0	0.0	3	2.0	76	50.7	71	47.3
45.	PCPr$_4$	SGU [a]	19	1.5	89	6.9	757	58.9	421	32.7
		PU [b]	0	0.0	4	2.7	84	56.0	62	41.3
46.	PCPr$_5$	SGU [a]	27	2.1	140	10.9	754	58.6	365	28.4
		PU [b]	1	0.7	12	8.0	86	57.3	51	34.0
47.	PCPr$_6$	SGU [a]	30	2.3	130	10.1	760	59.1	366	28.5
		PU [b]	0	0.0	5	3.3	94	62.7	51	34.0
48.	PCPr$_7$	SGU [a]	18	1.4	99	7.7	807	62.8	362	28.1
		PU [b]	0	0.0	4	2.7	84	56.0	62	41.3
49.	PCPr$_8$	SGU [a]	15	1.2	66	5.1	719	55.9	486	37.8
		PU [b]	0	0.0	6	4.0	87	58.0	57	38.0
50.	ICPr$_1$	SGU [a]	12	0.9	69	5.4	759	59.0	446	34.7
		PU [b]	0	0.0	4	2.7	83	55.3	63	42.0
51.	ICPr$_2$	SGU [a]	21	1.6	133	10.3	760	59.1	372	28.9
		PU [b]	0	0.0	5	3.3	96	64.0	49	32.7
52.	TECPr$_1$	SGU [a]	20	1.6	84	6.5	720	56.0	462	35.9
		PU [b]	0	0.0	5	3.3	91	60.7	54	36.0
53.	TECPr$_2$	SGU [a]	44	3.4	194	15.1	656	51.0	392	30.5
		PU [b]	1	0.7	7	4.7	81	54.0	61	40.7
54.	TECPr$_3$	SGU [a]	27	2.1	93	7.2	809	62.9	357	27.8
		PU [b]	0	0.0	2	1.3	95	63.3	53	35.3
55.	TECPr$_4$	SGU [a]	24	1.9	144	11.2	755	58.7	363	28.2
		PU [b]	0	0.0	8	5.3	89	59.3	53	35.3
56.	TECPr$_5$	SGU [a]	22	1.7	103	8.0	733	57.0	428	33.3
		PU [b]	0	0.0	4	2.7	88	58.7	58	38.7
57.	TECPr$_6$	SGU [a]	12	0.9	73	5.7	763	59.3	438	34.1
		PU [b]	0	0.0	8	5.3	83	55.3	59	39.3

Note-   *SD=Strongly Disagree; D=Disagree; A=Agree; and SA=Strongly Agree.*
          SGU=Grant-In-Aid Universities and PU=Self-Financed Universities.
          n [a] = 1286; and n [b] = 150.

Appendix S - III
Statementwise Observed Frequencies and Percentages of Pupil Teachers corresponding to Four Options of ESIBP-PTs with respect to Type of Institutions (TOI)

Sr. No.	Statement Code	TOI	SD		D		A		SA	
			N	%	N	%	N	%	N	%
1.	MV$_1$	GIACE [a]	1	0.3	3	0.8	186	47.2	204	51.8
		GCE [b]	4	0.9	14	3.1	341	74.3	100	21.8
		SFCE [c]	3	0.5	18	3.1	310	53.2	252	43.2
2.	MV$_2$	GIACE [a]	5	1.3	10	2.5	230	58.4	149	37.8
		GCE [b]	4	0.9	25	5.4	300	65.4	130	28.3
		SFCE [c]	5	0.9	52	8.9	354	60.7	172	29.5
3.	MV$_3$	GIACE [a]	7	1.8	16	4.1	212	53.8	159	40.4
		GCE [b]	1	0.2	32	7.0	270	58.8	156	34.0
		SFCE [c]	10	1.7	41	7.0	277	47.5	255	43.7
4.	MV$_4$	GIACE [a]	6	1.5	29	7.4	227	57.6	132	33.5
		GCE [b]	13	2.8	37	8.1	309	67.3	100	21.8
		SFCE [c]	14	2.4	54	9.3	280	48.0	235	40.3
5.	PO$_1$	GIACE [a]	4	1.0	22	5.6	217	55.1	151	38.3
		GCE [b]	4	0.9	35	7.6	277	60.3	143	31.2
		SFCE [c]	18	3.1	45	7.7	280	48.0	240	41.2
6.	PO$_2$	GIACE [a]	5	1.3	36	9.1	221	56.1	132	33.5
		GCE [b]	11	2.4	37	8.1	289	63.0	122	26.6
		SFCE [c]	6	1.0	60	10.3	323	55.4	194	33.3
7.	PO$_3$	GIACE [a]	3	0.8	19	4.8	223	56.6	149	37.8
		GCE [b]	6	1.3	36	7.8	282	61.4	135	29.4
		SFCE [c]	8	1.4	42	7.2	294	50.4	239	41.0
8.	PO$_4$	GIACE [a]	9	2.3	39	9.9	227	57.6	119	30.2
		GCE [b]	23	5.0	80	17.4	240	52.3	116	25.3
		SFCE [c]	17	2.9	49	8.4	313	53.7	204	35.0
9.	AI$_1$	GIACE [a]	9	2.3	51	12.9	196	49.7	138	35.0
		GCE [b]	13	2.8	72	15.7	268	58.4	106	23.1
		SFCE [c]	13	2.2	64	11.0	275	47.2	231	39.6
10.	AI$_2$	GIACE [a]	2	0.5	34	8.6	250	63.5	108	27.4
		GCE [b]	10	2.2	56	12.2	297	64.7	96	20.9
		SFCE [c]	16	2.7	57	9.8	311	53.3	199	34.1
11.	AI$_3$	GIACE [a]	11	2.8	33	8.4	219	55.6	131	33.2
		GCE [b]	25	5.4	66	14.4	288	62.7	80	17.4
		SFCE [c]	38	6.5	45	7.7	312	53.5	188	32.2
12.	RI$_1$	GIACE [a]	5	1.3	37	9.4	161	40.9	191	48.5
		GCE [b]	18	3.9	71	15.5	213	46.4	157	34.2
		SFCE [c]	24	4.1	64	11.0	256	43.9	239	41.0
13.	RI$_2$	GIACE [a]	19	4.8	28	7.1	221	56.1	126	32.0
		GCE [b]	30	6.5	75	16.3	238	51.9	116	25.3
		SFCE [c]	64	11.0	76	13.0	253	43.4	190	32.6

Sr. No.	Statement Code	TOI	SD		D		A		SA	
			N	%	N	%	N	%	N	%
14.	RI₃	GIACE [a]	6	1.5	15	3.8	224	56.9	149	37.8
		GCE [b]	39	8.5	72	15.7	248	54.0	100	21.8
		SFCE [c]	47	8.1	79	13.6	270	46.3	187	32.1
15.	TI₁	GIACE [a]	9	2.3	18	4.6	226	57.4	141	35.8
		GCE [b]	7	1.5	32	7.0	310	67.5	110	24.0
		SFCE [c]	6	1.0	46	7.9	291	49.9	240	41.2
16.	TI₂	GIACE [a]	7	1.8	30	7.6	228	57.9	129	32.7
		GCE [b]	14	3.1	46	10.0	272	59.3	127	27.7
		SFCE [c]	16	2.7	53	9.1	286	49.1	228	39.1
17.	TI₃	GIACE [a]	6	1.5	20	5.1	217	55.1	151	38.3
		GCE [b]	13	2.8	31	6.8	278	60.6	137	29.8
		SFCE [c]	17	2.9	56	9.6	277	47.5	233	40.0
18.	TI₄	GIACE [a]	13	3.3	62	15.7	178	45.2	141	35.8
		GCE [b]	14	3.1	65	14.2	244	53.2	136	29.6
		SFCE [c]	28	4.8	106	18.2	264	45.3	185	31.7
19.	TI₅	GIACE [a]	11	2.8	19	4.8	198	50.3	166	42.1
		GCE [b]	16	3.5	23	5.0	210	45.8	210	45.8
		SFCE [c]	17	2.9	43	7.4	279	47.9	244	41.9
20.	TI₆	GIACE [a]	21	5.3	75	19.0	208	52.8	90	22.8
		GCE [b]	45	9.8	135	29.4	209	45.5	70	15.3
		SFCE [c]	43	7.4	109	18.7	261	44.8	170	29.2
21.	PI₁	GIACE [a]	5	1.3	20	5.1	217	55.1	152	38.6
		GCE [b]	21	4.6	51	11.1	255	55.6	132	28.8
		SFCE [c]	37	6.3	53	9.1	277	47.5	216	37.0
22.	PI₂	GIACE [a]	5	1.3	41	10.4	222	56.3	126	32.0
		GCE [b]	13	2.8	86	18.7	268	58.4	92	20.0
		SFCE [c]	16	2.7	92	15.8	325	55.7	150	25.7
23.	CTP₁	GIACE [a]	3	0.8	10	2.5	180	45.7	201	51.0
		GCE [b]	8	1.7	20	4.4	260	56.6	171	37.3
		SFCE [c]	5	0.9	38	6.5	296	50.8	244	41.9
24.	CTP₂	GIACE [a]	10	2.5	47	11.9	207	52.5	130	33.0
		GCE [b]	19	4.1	80	17.4	270	58.8	90	19.6
		SFCE [c]	19	3.3	69	11.8	323	55.4	172	29.5
25.	CTP₃	GIACE [a]	11	2.8	67	17.0	182	46.2	134	34.0
		GCE [b]	37	8.1	91	19.8	233	50.8	98	21.4
		SFCE [c]	58	9.9	110	18.9	248	42.5	167	28.6
26.	CTP₄	GIACE [a]	7	1.8	45	11.4	212	53.8	130	33.0
		GCE [b]	15	3.3	97	21.1	260	56.6	87	19.0
		SFCE [c]	18	3.1	69	11.8	310	53.2	186	31.9
27.	CTP₅	GIACE [a]	3	0.8	23	5.8	214	54.3	154	39.1
		GCE [b]	6	1.3	32	7.0	266	58.0	155	33.8
		SFCE [c]	14	2.4	52	8.9	278	47.7	239	41.0

Sr. No.	Statement Code	TOI	SD		D		A		SA	
			N	%	N	%	N	%	N	%
28.	CTP$_6$	GIACE [a]	9	2.3	45	11.4	196	49.7	144	36.5
		GCE [b]	12	2.6	71	15.5	262	57.1	114	24.8
		SFCE [c]	16	2.7	101	17.3	290	49.7	176	30.2
29.	CTP$_7$	GIACE [a]	11	2.8	16	4.1	219	55.6	148	37.6
		GCE [b]	8	1.7	30	6.5	248	54.0	173	37.7
		SFCE [c]	12	2.1	40	6.9	293	50.3	238	40.8
30.	PP$_1$	GIACE [a]	3	0.8	52	13.2	230	58.4	109	27.7
		GCE [b]	11	2.4	73	15.9	275	59.9	100	21.8
		SFCE [c]	12	2.1	68	11.7	335	57.5	168	28.8
31.	PP$_2$	GIACE [a]	4	1.0	33	8.4	205	52.0	152	38.6
		GCE [b]	14	3.1	47	10.2	248	54.0	150	32.7
		SFCE [c]	15	2.6	76	13.0	278	47.7	214	36.7
32.	PP$_3$	GIACE [a]	8	2.0	51	12.9	231	58.6	104	26.4
		GCE [b]	15	3.3	80	17.4	283	61.7	81	17.6
		SFCE [c]	23	3.9	64	11.0	314	53.9	182	31.2
33.	PP$_4$	GIACE [a]	29	7.4	39	9.9	220	55.8	106	26.9
		GCE [b]	41	8.9	120	26.1	223	48.6	75	16.3
		SFCE [c]	40	6.9	88	15.1	270	46.3	185	31.7
34.	TP$_1$	GIACE [a]	8	2.0	41	10.4	220	55.8	125	31.7
		GCE [b]	13	2.8	48	10.5	306	66.7	92	20.0
		SFCE [c]	10	1.7	45	7.7	316	54.2	212	36.4
35.	TP$_2$	GIACE [a]	8	2.0	47	11.9	249	63.2	90	22.8
		GCE [b]	16	3.5	90	19.6	281	61.2	72	15.7
		SFCE [c]	21	3.6	81	13.9	334	57.3	147	25.2
36.	TP$_3$	GIACE [a]	14	3.6	67	17.0	223	56.6	90	22.8
		GCE [b]	43	9.4	169	36.8	194	42.3	53	11.5
		SFCE [c]	40	6.9	132	22.6	268	46.0	143	24.5
37.	AP$_1$	GIACE [a]	7	1.8	32	8.1	247	62.7	108	27.4
		GCE [b]	15	3.3	67	14.6	286	62.3	91	19.8
		SFCE [c]	18	3.1	79	13.6	328	56.3	158	27.1
38.	AP$_2$	GIACE [a]	8	2.0	51	12.9	227	57.6	108	27.4
		GCE [b]	13	2.8	99	21.6	278	60.6	69	15.0
		SFCE [c]	35	6.0	100	17.2	303	52.0	145	24.9
39.	EP$_1$	GIACE [a]	5	1.3	47	11.9	219	55.6	123	31.2
		GCE [b]	9	2.0	66	14.4	286	62.3	98	21.4
		SFCE [c]	18	3.1	77	13.2	321	55.1	167	28.6
40.	EP$_2$	GIACE [a]	5	1.3	28	7.1	263	66.8	98	24.9
		GCE [b]	6	1.3	61	13.3	304	66.2	88	19.2
		SFCE [c]	12	2.1	75	12.9	325	55.7	171	29.3
41.	EP$_3$	GIACE [a]	10	2.5	63	16.0	221	56.1	100	25.4
		GCE [b]	23	5.0	93	20.3	269	58.6	74	16.1
		SFCE [c]	18	3.1	94	16.1	356	61.1	115	19.7

Sr. No.	Statement Code	TOI	SD		D		A		SA	
			N	%	N	%	N	%	N	%
42.	PCPr$_1$	GIACE [a]	3	0.8	22	5.6	226	57.4	143	36.3
		GCE [b]	5	1.1	25	5.4	306	66.7	123	26.8
		SFCE [c]	9	1.5	41	7.0	309	53.0	224	38.4
43.	PCPr$_2$	GIACE [a]	4	1.0	50	12.7	212	53.8	128	32.5
		GCE [b]	15	3.3	70	15.3	252	54.9	122	26.6
		SFCE [c]	18	3.1	77	13.2	298	51.1	190	32.6
44.	PCPr$_3$	GIACE [a]	2	0.5	14	3.6	240	60.9	138	35.0
		GCE [b]	3	0.7	17	3.7	294	64.1	145	31.6
		SFCE [c]	12	2.1	41	7.0	289	49.6	241	41.3
45.	PCPr$_4$	GIACE [a]	3	0.8	16	4.1	230	58.4	145	36.8
		GCE [b]	5	1.1	33	7.2	294	64.1	127	27.7
		SFCE [c]	11	1.9	44	7.5	317	54.4	211	36.2
46.	PCPr$_5$	GIACE [a]	7	1.8	26	6.6	238	60.4	123	31.2
		GCE [b]	9	2.0	54	11.8	300	65.4	96	20.9
		SFCE [c]	12	2.1	72	12.3	302	51.8	197	33.8
47.	PCPr$_6$	GIACE [a]	8	2.0	25	6.3	221	56.1	140	35.5
		GCE [b]	5	1.1	57	12.4	298	64.9	99	21.6
		SFCE [c]	17	2.9	53	9.1	335	57.5	178	30.5
48.	PCPr$_7$	GIACE [a]	5	1.3	17	4.3	260	66.0	112	28.4
		GCE [b]	6	1.3	32	7.0	314	68.4	107	23.3
		SFCE [c]	7	1.2	54	9.3	317	54.4	205	35.2
49.	PCPr$_8$	GIACE [a]	5	1.3	10	2.5	232	58.9	147	37.3
		GCE [b]	1	0.2	14	3.1	279	60.8	165	35.9
		SFCE [c]	9	1.5	48	8.2	295	50.6	231	39.6
50.	ICPr$_1$	GIACE [a]	3	0.8	7	1.8	248	62.9	136	34.5
		GCE [b]	1	0.2	25	5.4	293	63.8	140	30.5
		SFCE [c]	8	1.4	41	7.0	301	51.6	233	40.0
51.	ICPr$_2$	GIACE [a]	3	0.8	30	7.6	245	62.2	116	29.4
		GCE [b]	6	1.3	45	9.8	300	65.4	108	23.5
		SFCE [c]	12	2.1	63	10.8	311	53.3	197	33.8
52.	TECPr$_1$	GIACE [a]	6	1.5	19	4.8	236	59.9	133	33.8
		GCE [b]	6	1.3	19	4.1	307	66.9	127	27.7
		SFCE [c]	8	1.4	51	8.7	268	46.0	256	43.9
53.	TECPr$_2$	GIACE [a]	9	2.3	42	10.7	206	52.3	137	34.8
		GCE [b]	13	2.8	78	17.0	267	58.2	101	22.0
		SFCE [c]	23	3.9	81	13.9	264	45.3	215	36.9
54.	TECPr$_3$	GIACE [a]	3	0.8	20	5.1	248	62.9	123	31.2
		GCE [b]	12	2.6	31	6.8	320	69.7	96	20.9
		SFCE [c]	12	2.1	44	7.5	336	57.6	191	32.8
55.	TECPr$_4$	GIACE [a]	3	0.8	25	6.3	234	59.4	132	33.5
		GCE [b]	7	1.5	58	12.6	296	64.5	98	21.4
		SFCE [c]	14	2.4	69	11.8	314	53.9	186	31.9

Sr. No.	Statement Code	TOI	SD N	SD %	D N	D %	A N	A %	SA N	SA %
56.	TECPr$_5$	GIACE [a]	7	1.8	19	4.8	224	56.9	144	36.5
		GCE [b]	5	1.1	35	7.6	296	64.5	123	26.8
		SFCE [c]	10	1.7	53	9.1	301	51.6	219	37.6
57.	TECPr$_6$	GIACE [a]	2	0.5	25	6.3	225	57.1	142	36.0
		GCE [b]	4	0.9	13	2.8	309	67.3	133	29.0
		SFCE [c]	6	1.0	43	7.4	312	53.5	222	38.1

Note- *SD=Strongly Disagree; D=Disagree; A=Agree; and SA=Strongly Agree.*
GCE = Government Colleges of Education; GIACE = Grant-in-Aid Colleges of Education; and SF = Self-Financed Colleges of Education.
n [a] = 394, n [b] = 459 and n [c] = 583.

Appendix S - IV
Statementwise Observed Frequencies and Percentages of Teacher Educators
corresponding to Four Options of ESIBP-TEs with respect to State

Sr. No.	Statements	State	SD		D		A		SA	
			N	%	N	%	N	%	N	%
1.	MV$_1$	HP [a]	1	6.7	0	0.0	9	60.0	5	33.3
		HR [b]	1	2.0	2	4.0	22	44.0	25	50.0
		PB [c]	1	1.8	3	5.5	27	49.1	24	43.6
2.	MV$_2$	HP [a]	0	0.0	0	0.0	14	93.3	1	6.7
		HR [b]	1	2.0	5	10.0	24	48.0	20	40.0
		PB [c]	0	0.0	3	5.5	27	49.1	25	45.5
3.	MV$_3$	HP [a]	0	0.0	0	0.0	7	46.7	8	53.3
		HR [b]	1	2.0	2	4.0	22	44.0	25	50.0
		PB [c]	0	0.0	8	14.5	25	45.5	22	40.0
4.	MV$_4$	HP [a]	0	0.0	3	20.0	10	66.7	2	13.3
		HR [b]	1	2.0	7	14.0	24	48.0	18	36.0
		PB [c]	0	0.0	8	14.5	34	61.8	13	23.6
5.	PO$_1$	HP [a]	0	0.0	1	6.7	9	60.0	5	33.3
		HR [b]	0	0.0	5	10.0	21	42.0	24	48.0
		PB [c]	0	0.0	5	9.1	33	60.0	17	30.9
6.	PO$_2$	HP [a]	1	6.7	3	20.0	8	53.3	3	20.0
		HR [b]	1	2.0	5	10.0	24	48.0	20	40.0
		PB [c]	0	0.0	11	20.0	31	56.4	13	23.6
7.	PO$_3$	HP [a]	0	0.0	0	0.0	12	80.0	3	20.0
		HR [b]	1	2.0	3	6.0	20	40.0	26	52.0
		PB [c]	1	1.8	6	10.9	29	52.7	19	34.5
8.	PO$_4$	HP [a]	0	0.0	3	20.0	10	66.7	2	13.3
		HR [b]	4	8.0	6	12.0	23	46.0	17	34.0
		PB [c]	2	3.6	14	25.5	26	47.3	13	23.6
9.	AI$_1$	HP [a]	0	0.0	0	0.0	12	80.0	3	20.0
		HR [b]	1	2.0	1	2.0	29	58.0	19	38.0
		PB [c]	0	0.0	3	5.5	34	61.8	18	32.7
10.	AI$_2$	HP [a]	0	0.0	2	13.3	11	73.3	2	13.3
		HR [b]	2	4.0	3	6.0	30	60.0	15	30.0
		PB [c]	1	1.8	5	9.1	35	63.6	14	25.5
11.	TI$_1$	HP [a]	0	0.0	2	13.3	12	80.0	1	6.7
		HR [b]	2	4.0	5	10.0	25	50.0	18	36.0
		PB [c]	1	1.8	10	18.2	30	54.5	14	25.5
12.	TI$_2$	HP [a]	1	6.7	0	0.0	9	60.0	5	33.3
		HR [b]	1	2.0	3	6.0	26	52.0	20	40.0
		PB [c]	1	1.8	5	9.1	27	49.1	22	40.0
13.	TI$_3$	HP [a]	1	6.7	0	0.0	12	80.0	2	13.3
		HR [b]	1	2.0	3	6.0	29	58.0	17	34.0
		PB [c]	0	0.0	4	7.3	33	60.0	18	32.7

Sr. No.	Statements	State	SD		D		A		SA	
			N	%	N	%	N	%	N	%
14.	TI[4]	HP [a]	0	0.0	3	20.0	8	53.3	4	26.7
		HR [b]	0	0.0	3	6.0	30	60.0	17	34.0
		PB [c]	1	1.8	8	14.5	25	45.5	21	38.2
15.	TI[5]	HP [a]	1	6.7	2	13.3	11	73.3	1	6.7
		HR [b]	1	2.0	5	10.0	25	50.0	19	38.0
		PB [c]	1	1.8	10	18.2	27	49.1	17	30.9
16.	RI[1]	HP [a]	0	0.0	1	6.7	11	73.3	3	20.0
		HR [b]	0	0.0	3	6.0	26	52.0	21	42.0
		PB [c]	0	0.0	2	3.6	35	63.6	18	32.7
17.	RI[2]	HP [a]	0	0.0	0	0.0	8	53.3	7	46.7
		HR [b]	1	2.0	2	4.0	25	50.0	22	44.0
		PB [c]	0	0.0	6	10.9	32	58.2	17	30.9
18.	PI[1]	HP [a]	0	0.0	2	13.3	10	66.7	3	20.0
		HR [b]	1	2.0	6	12.0	25	50.0	18	36.0
		PB [c]	1	1.8	4	7.3	27	49.1	23	41.8
19.	PI[2]	HP [a]	1	6.7	2	13.3	11	73.3	1	6.7
		HR [b]	0	0.0	8	16.0	22	44.0	20	40.0
		PB [c]	0	0.0	11	20.0	32	58.2	12	21.8
20.	PI[3]	HP [a]	0	0.0	2	13.3	8	53.3	5	33.3
		HR [b]	0	0.0	7	14.0	22	44.0	21	42.0
		PB [c]	0	0.0	6	10.9	32	58.2	17	30.9
21.	EI[1]	HP [a]	1	6.7	4	26.7	8	53.3	2	13.3
		HR [b]	3	6.0	7	14.0	25	50.0	15	30.0
		PB [c]	2	3.6	15	27.3	32	58.2	6	10.9
22.	EI[2]	HP [a]	0	0.0	3	20.0	9	60.0	3	20.0
		HR [b]	1	2.0	4	8.0	28	56.0	17	34.0
		PB [c]	2	3.6	6	10.9	31	56.4	16	29.1
23.	PDP[1]	HP [a]	0	0.0	0	0.0	9	60.0	6	40.0
		HR [b]	3	6.0	1	2.0	23	46.0	23	46.0
		PB [c]	1	1.8	5	9.1	21	38.2	28	50.9
24.	PDP[2]	HP [a]	0	0.0	1	6.7	11	73.3	3	20.0
		HR [b]	0	0.0	3	6.0	27	54.0	20	40.0
		PB [c]	1	1.8	6	10.9	33	60.0	15	27.3
25.	PDP[3]	HP [a]	0	0.0	0	0.0	14	93.3	1	6.7
		HR [b]	0	0.0	2	4.0	29	58.0	19	38.0
		PB [c]	0	0.0	5	9.1	31	56.4	19	34.5
26.	PDP[4]	HP [a]	1	6.7	1	6.7	8	53.3	5	33.3
		HR [b]	0	0.0	5	10.0	30	60.0	15	30.0
		PB [c]	1	1.8	4	7.3	36	65.5	14	25.5
27.	PDP[5]	HP [a]	0	0.0	3	20.0	11	73.3	1	6.7
		HR [b]	0	0.0	1	2.0	37	74.0	12	24.0
		PB [c]	2	3.6	7	12.7	32	58.2	14	25.5

Sr. No.	Statements	State	SD		D		A		SA	
			N	%	N	%	N	%	N	%
28.	EP[1]	HP [a]	1	6.7	0	0.0	12	80.0	2	13.3
		HR [b]	1	2.0	7	14.0	27	54.0	15	30.0
		PB [c]	5	9.1	3	5.5	32	58.2	15	27.3
29.	EP[2]	HP [a]	0	0.0	1	6.7	10	66.7	4	26.7
		HR [b]	0	0.0	4	8.0	25	50.0	21	42.0
		PB [c]	0	0.0	2	3.6	32	58.2	21	38.2
30.	EP[3]	HP [a]	0	0.0	0	0.0	13	86.7	2	13.3
		HR [b]	0	0.0	6	12.0	24	48.0	20	40.0
		PB [c]	1	1.8	5	9.1	32	58.2	17	30.9
31.	PP[1]	HP [a]	1	6.7	3	20.0	6	40.0	5	33.3
		HR [b]	0	0.0	6	12.0	29	58.0	15	30.0
		PB [c]	2	3.6	11	20.0	35	63.6	7	12.7
32.	PP[2]	HP [a]	0	0.0	0	0.0	11	73.3	4	26.7
		HR [b]	1	2.0	1	2.0	33	66.0	15	30.0
		PB [c]	1	1.8	4	7.3	27	49.1	23	41.8
33.	PP[3]	HP [a]	0	0.0	0	0.0	8	53.3	7	46.7
		HR [b]	1	2.0	4	8.0	24	48.0	21	42.0
		PB [c]	1	1.8	7	12.7	26	47.3	21	38.2
34.	PP[4]	HP [a]	0	0.0	2	13.3	9	60.0	4	26.7
		HR [b]	0	0.0	2	4.0	30	60.0	18	36.0
		PB [c]	0	0.0	6	10.9	24	43.6	25	45.5
35.	PP[5]	HP [a]	0	0.0	4	26.7	4	26.7	7	46.7
		HR [b]	0	0.0	7	14.0	34	68.0	9	18.0
		PB [c]	0	0.0	9	16.4	28	50.9	18	32.7
36.	TP[1]	HP [a]	0	0.0	3	20.0	9	60.0	3	20.0
		HR [b]	0	0.0	3	6.0	34	68.0	13	26.0
		PB [c]	2	3.6	2	3.6	39	70.9	12	21.8
37.	TP[2]	HP [a]	0	0.0	3	20.0	11	73.3	1	6.7
		HR [b]	1	2.0	6	12.0	31	62.0	12	24.0
		PB [c]	1	1.8	7	12.7	34	61.8	13	23.6
38.	TP[3]	HP [a]	0	0.0	6	40.0	6	40.0	3	20.0
		HR [b]	2	4.0	10	20.0	33	66.0	5	10.0
		PB [c]	0	0.0	11	20.0	31	56.4	13	23.6
39.	ANARPr[1]	HP [a]	2	13.3	4	26.7	5	33.3	4	26.7
		HR [b]	8	16.0	25	50.0	5	10.0	12	24.0
		PB [c]	15	27.3	29	52.7	7	12.7	4	7.3
40.	ANARPr[2]	HP [a]	0	0.0	2	13.3	7	46.7	6	40.0
		HR [b]	0	0.0	1	2.0	32	64.0	17	34.0
		PB [c]	2	3.6	4	7.3	24	43.6	25	45.5
41.	ANARPr[3]	HP [a]	0	0.0	3	20.0	10	66.7	2	13.3
		HR [b]	1	2.0	9	18.0	28	56.0	12	24.0
		PB [c]	1	1.8	10	18.2	35	63.6	9	16.4

Sr. No.	Statements	State	SD		D		A		SA	
			N	%	N	%	N	%	N	%
42.	ANARPr4	HP [a]	1	6.7	4	26.7	6	40.0	4	26.7
		HR [b]	0	0.0	1	2.0	29	58.0	20	40.0
		PB [c]	2	3.6	5	9.1	30	54.5	18	32.7
43.	ANARPr5	HP [a]	0	0.0	0	0.0	13	86.7	2	13.3
		HR [b]	0	0.0	7	14.0	29	58.0	14	28.0
		PB [c]	0	0.0	9	16.4	29	52.7	17	30.9
44.	ANARPr6	HP [a]	0	0.0	1	6.7	13	86.7	1	6.7
		HR [b]	0	0.0	6	12.0	29	58.0	15	30.0
		PB [c]	2	3.6	7	12.7	35	63.6	11	20.0
45.	RCPr1	HP [a]	0	0.0	3	20.0	8	53.3	4	26.7
		HR [b]	1	2.0	3	6.0	33	66.0	13	26.0
		PB [c]	2	3.6	4	7.3	32	58.2	17	30.9
46.	RCPr2	HP [a]	0	0.0	3	20.0	9	60.0	3	20.0
		HR [b]	0	0.0	2	4.0	36	72.0	12	24.0
		PB [c]	0	0.0	10	18.2	29	52.7	16	29.1
47.	RCPr3	HP [a]	0	0.0	3	20.0	12	80.0	0	0.0
		HR [b]	0	0.0	6	12.0	27	54.0	17	34.0
		PB [c]	0	0.0	10	18.2	26	47.3	19	34.5
48.	PTPr1	HP [a]	0	0.0	4	26.7	9	60.0	2	13.3
		HR [b]	0	0.0	12	24.0	28	56.0	10	20.0
		PB [c]	2	3.6	13	23.6	34	61.8	6	10.9
49.	PTPr2	HP [a]	0	0.0	2	13.3	10	66.7	3	20.0
		HR [b]	0	0.0	7	14.0	24	48.0	19	38.0
		PB [c]	1	1.8	12	21.8	30	54.5	12	21.8
50.	PTPr3	HP [a]	0	0.0	3	20.0	8	53.3	4	26.7
		HR [b]	1	2.0	4	8.0	27	54.0	18	36.0
		PB [c]	4	7.3	8	14.5	32	58.2	11	20.0
51.	ERPr1	HP [a]	0	0.0	0	0.0	12	80.0	3	20.0
		HR [b]	1	2.0	6	12.0	23	46.0	20	40.0
		PB [c]	0	0.0	7	12.7	28	50.9	20	36.4
52.	ERPr2	HP [a]	0	0.0	1	6.7	12	80.0	2	13.3
		HR [b]	0	0.0	6	12.0	34	68.0	10	20.0
		PB [c]	1	1.8	8	14.5	38	69.1	8	14.5
53.	SRPr1	HP [a]	0	0.0	6	40.0	8	53.3	1	6.7
		HR [b]	0	0.0	14	28.0	26	52.0	10	20.0
		PB [c]	4	7.3	18	32.7	27	49.1	6	10.9
54.	SRPr2	HP [a]	0	0.0	0	0.0	10	66.7	5	33.3
		HR [b]	0	0.0	9	18.0	29	58.0	12	24.0
		PB [c]	0	0.0	10	18.2	29	52.7	16	29.1

Note: *SD = Strongly Disagree; D = Disagree; A = Agree and SA = Strongly Agree.*
HP = Himachal Pradesh; HR = Haryana; and PB = Punjab.
n [a] = 15, n [b] = 50 and n [c] = 55.

Appendix S - V
Statementwise Observed Frequencies and Percentages of Teacher Educators
corresponding to Four Options of ESIBP-TEs with respect to University

Sr. No.	Statement Code	University	SD		D		A		SA	
			N	%	N	%	N	%	N	%
1.	MV_1	SGU [a]	2	1.9	4	3.8	54	51.4	45	42.9
		PU [b]	1	6.7	1	6.7	4	26.7	9	60.0
2.	MV_2	SGU [a]	1	1.0	7	6.7	58	55.2	39	37.1
		PU [b]	0	0.0	1	6.7	7	46.7	7	46.7
3.	MV_3	SGU [a]	1	1.0	10	9.5	48	45.7	46	43.8
		PU [b]	0	0.0	0	0.0	6	40.0	9	60.0
4.	MV_4	SGU [a]	1	1.0	18	17.1	62	59.0	24	22.9
		PU [b]	0	0.0	0	0.0	6	40.0	9	60.0
5.	PO_1	SGU [a]	0	0.0	10	9.5	59	56.2	36	34.3
		PU [b]	0	0.0	1	6.7	4	26.7	10	66.7
6.	PO_2	SGU [a]	2	1.9	17	16.2	55	52.4	31	29.5
		PU [b]	0	0.0	2	13.3	8	53.3	5	33.3
7.	PO_3	SGU [a]	2	1.9	8	7.6	54	51.4	41	39.0
		PU [b]	0	0.0	1	6.7	7	46.7	7	46.7
8.	PO_4	SGU [a]	6	5.7	23	21.9	49	46.7	27	25.7
		PU [b]	0	0.0	0	0.0	10	66.7	5	33.3
9.	AI_1	SGU [a]	1	1.0	4	3.8	66	62.9	34	32.4
		PU [b]	0	0.0	0	0.0	9	60.0	6	40.0
10.	AI_2	SGU [a]	3	2.9	10	9.5	65	61.9	27	25.7
		PU [b]	0	0.0	0	0.0	11	73.3	4	26.7
11.	TI_1	SGU [a]	3	2.9	16	15.2	58	55.2	28	26.7
		PU [b]	0	0.0	1	6.7	9	60.0	5	33.3
12.	TI_2	SGU [a]	3	2.9	7	6.7	56	53.3	39	37.1
		PU [b]	0	0.0	1	6.7	6	40.0	8	53.3
13.	TI_3	SGU [a]	2	1.9	6	5.7	65	61.9	32	30.5
		PU [b]	0	0.0	1	6.7	9	60.0	5	33.3
14.	TI_4	SGU [a]	1	1.0	12	11.4	56	53.3	36	34.3
		PU [b]	0	0.0	2	13.3	7	46.7	6	40.0
15.	TI_5	SGU [a]	2	1.9	15	14.3	56	53.3	32	30.5
		PU [b]	1	6.7	2	13.3	7	46.7	5	33.3
16.	RI_1	SGU [a]	0	0.0	6	5.7	65	61.9	34	32.4
		PU [b]	0	0.0	0	0.0	7	46.7	8	53.3
17.	RI_2	SGU [a]	1	1.0	7	6.7	58	55.2	39	37.1
		PU [b]	0	0.0	1	6.7	7	46.7	7	46.7
18.	PI_1	SGU [a]	2	1.9	11	10.5	57	54.3	35	33.3
		PU [b]	0	0.0	1	6.7	5	33.3	9	60.0
19.	PI_2	SGU [a]	1	1.0	18	17.1	58	55.2	28	26.7
		PU [b]	0	0.0	3	20.0	7	46.7	5	33.3

Sr. No.	Statement Code	University	SD N	SD %	D N	D %	A N	A %	SA N	SA %
20.	PI_3	SGU [a]	0	0.0	15	14.3	54	51.4	36	34.3
		PU [b]	0	0.0	0	0.0	8	53.3	7	46.7
21.	EI_1	SGU [a]	6	5.7	26	24.8	54	51.4	19	18.1
		PU [b]	0	0.0	0	0.0	11	73.3	4	26.7
22.	EI_2	SGU [a]	3	2.9	13	12.4	57	54.3	32	30.5
		PU [b]	0	0.0	0	0.0	11	73.3	4	26.7
23.	PDP_1	SGU [a]	4	3.8	6	5.7	48	45.7	47	44.8
		PU [b]	0	0.0	0	0.0	5	33.3	10	66.7
24.	PDP_2	SGU [a]	1	1.0	9	8.6	62	59.0	33	31.4
		PU [b]	0	0.0	1	6.7	9	60.0	5	33.3
25.	PDP_3	SGU [a]	0	0.0	6	5.7	67	63.8	32	30.5
		PU [b]	0	0.0	1	6.7	7	46.7	7	46.7
26.	PDP_4	SGU [a]	2	1.9	8	7.6	62	59.0	33	31.4
		PU [b]	0	0.0	2	13.3	12	80.0	1	6.7
27.	PDP_5	SGU [a]	2	1.9	9	8.6	74	70.5	20	19.0
		PU [b]	0	0.0	2	13.3	6	40.0	7	46.7
28.	EP_1	SGU [a]	7	6.7	10	9.5	60	57.1	28	26.7
		PU [b]	0	0.0	0	0.0	11	73.3	4	26.7
29.	EP_2	SGU [a]	0	0.0	7	6.7	57	54.3	41	39.0
		PU [b]	0	0.0	0	0.0	10	66.7	5	33.3
30.	EP_3	SGU [a]	1	1.0	9	8.6	59	56.2	36	34.3
		PU [b]	0	0.0	2	13.3	10	66.7	3	20.0
31.	PP_1	SGU [a]	3	2.9	19	18.1	58	55.2	25	23.8
		PU [b]	0	0.0	1	6.7	12	80.0	2	13.3
32.	PP_2	SGU [a]	2	1.9	4	3.8	63	60.0	36	34.3
		PU [b]	0	0.0	1	6.7	8	53.3	6	40.0
33.	PP_3	SGU [a]	2	1.9	9	8.6	51	48.6	43	41.0
		PU [b]	0	0.0	2	13.3	7	46.7	6	40.0
34.	PP_4	SGU [a]	0	0.0	10	9.5	56	53.3	39	37.1
		PU [b]	0	0.0	0	0.0	7	46.7	8	53.3
35.	PP_5	SGU [a]	0	0.0	20	19.0	54	51.4	31	29.5
		PU [b]	0	0.0	0	0.0	12	80.0	3	20.0
36.	TP_1	SGU [a]	2	1.9	7	6.7	71	67.6	25	23.8
		PU [b]	0	0.0	1	6.7	11	73.3	3	20.0
37.	TP_2	SGU [a]	2	1.9	15	14.3	66	62.9	22	21.0
		PU [b]	0	0.0	1	6.7	10	66.7	4	26.7
38.	TP_3	SGU [a]	2	1.9	26	24.8	59	56.2	18	17.1
		PU [b]	0	0.0	1	6.7	11	73.3	3	20.0
39.	$ANARPr_1$	SGU [a]	21	20.0	51	48.6	15	14.3	18	17.1
		PU [b]	4	26.7	7	46.7	2	13.3	2	13.3
40.	$ANARPr_2$	SGU [a]	2	1.9	7	6.7	56	53.3	40	38.1
		PU [b]	0	0.0	0	0.0	7	46.7	8	53.3

Sr. No.	Statement Code	University	SD		D		A		SA	
			N	%	N	%	N	%	N	%
41.	ANARPr$_3$	SGU [a]	2	1.9	19	18.1	61	58.1	23	21.9
		PU [b]	0	0.0	3	20.0	12	80.0	0	0.0
42.	ANARPr$_4$	SGU [a]	3	2.9	10	9.5	57	54.3	35	33.3
		PU [b]	0	0.0	0	0.0	8	53.3	7	46.7
43.	ANARPr$_5$	SGU [a]	0	0.0	13	12.4	62	59.0	30	28.6
		PU [b]	0	0.0	3	20.0	9	60.0	3	20.0
44.	ANARPr$_6$	SGU [a]	1	1.0	12	11.4	67	63.8	25	23.8
		PU [b]	1	6.7	2	13.3	10	66.7	2	13.3
45.	RCPr$_1$	SGU [a]	3	2.9	8	7.6	64	61.0	30	28.6
		PU [b]	0	0.0	2	13.3	9	60.0	4	26.7
46.	RCPr$_2$	SGU [a]	0	0.0	12	11.4	64	61.0	29	27.6
		PU [b]	0	0.0	3	20.0	10	66.7	2	13.3
47.	RCPr$_3$	SGU [a]	0	0.0	14	13.3	57	54.3	34	32.4
		PU [b]	0	0.0	5	33.3	8	53.3	2	13.3
48.	PTPr$_1$	SGU [a]	2	1.9	26	24.8	60	57.1	17	16.2
		PU [b]	0	0.0	3	20.0	11	73.3	1	6.7
49.	PTPr$_2$	SGU [a]	1	1.0	19	18.1	53	50.5	32	30.5
		PU [b]	0	0.0	2	13.3	11	73.3	2	13.3
50.	PTPr$_3$	SGU [a]	4	3.8	14	13.3	57	54.3	30	28.6
		PU [b]	1	6.7	1	6.7	10	66.7	3	20.0
51.	ERPr$_1$	SGU [a]	1	1.0	12	11.4	56	53.3	36	34.3
		PU [b]	0	0.0	1	6.7	7	46.7	7	46.7
52.	ERPr$_2$	SGU [a]	1	1.0	13	12.4	72	68.6	19	18.1
		PU [b]	0	0.0	2	13.3	12	80.0	1	6.7
53.	SRPr$_1$	SGU [a]	4	3.8	32	30.5	53	50.5	16	15.2
		PU [b]	0	0.0	6	40.0	8	53.3	1	6.7
54.	SRPr$_2$	SGU [a]	0	0.0	16	15.2	58	55.2	31	29.5
		PU [b]	0	0.0	3	20.0	10	66.7	2	13.3

Note- *SD=Strongly Disagree; D=Disagree; A=Agree; and SA=Strongly Agree.*
SGU=Grant-In-Aid Universities and P=Self-Financed Universities.
n [a] = 105 and n [b] = 15.

Appendix S - VI
Statementwise Observed Frequencies and Percentages of Teacher Educators
corresponding to Four Options of ESIBP-TEs with respect to (TOI)

Sr. No.	Statement Code	TOI	SD		D		A		SA	
			N	%	N	%	N	%	N	%
1.	MV[1]	GIAE [a]	0	0.0	4	11.4	20	57.1	11	31.4
		GCE [b]	2	5.7	0	0.0	20	57.1	13	37.1
		SFCE [c]	1	2.0	1	2.0	18	36.0	30	60.0
2.	MV[2]	GIAE [a]	0	0.0	3	8.6	19	54.3	13	37.1
		GCE [b]	1	2.9	0	0.0	18	51.4	16	45.7
		SFCE [c]	0	0.0	5	10.0	28	56.0	17	34.0
3.	MV[3]	GIAE [a]	0	0.0	6	17.1	17	48.6	12	34.3
		GCE [b]	1	2.9	2	5.7	17	48.6	15	42.9
		SFCE [c]	0	0.0	2	4.0	20	40.0	28	56.0
4.	MV[4]	GIAE [a]	0	0.0	9	25.7	22	62.9	4	11.4
		GCE [b]	1	2.9	3	8.6	24	68.6	7	20.0
		SFCE [c]	0	0.0	6	12.0	22	44.0	22	44.0
5.	PO[1]	GIAE [a]	0	0.0	4	11.4	22	62.9	9	25.7
		GCE [b]	0	0.0	4	11.4	17	48.6	14	40.0
		SFCE [c]	0	0.0	3	6.0	24	48.0	23	46.0
6.	PO[2]	GIAE [a]	0	0.0	12	34.3	17	48.6	6	17.1
		GCE [b]	2	5.7	4	11.4	18	51.4	11	31.4
		SFCE [c]	0	0.0	3	6.0	28	56.0	19	38.0
7.	PO[3]	GIAE [a]	0	0.0	5	14.3	23	65.7	7	20.0
		GCE [b]	2	5.7	3	8.6	18	51.4	12	34.3
		SFCE [c]	0	0.0	1	2.0	20	40.0	29	58.0
8.	PO[4]	GIAE [a]	1	2.9	9	25.7	17	48.6	8	22.9
		GCE [b]	5	14.3	11	31.4	12	34.3	7	20.0
		SFCE [c]	0	0.0	3	6.0	30	60.0	17	34.0
9.	AI[1]	GIAE [a]	0	0.0	3	8.6	23	65.7	9	25.7
		GCE [b]	1	2.9	1	2.9	25	71.4	8	22.9
		SFCE [c]	0	0.0	0	0.0	27	54.0	23	46.0
10.	AI[2]	GIAE [a]	1	2.9	3	8.6	25	71.4	6	17.1
		GCE [b]	2	5.7	5	14.3	19	54.3	9	25.7
		SFCE [c]	0	0.0	2	4.0	32	64.0	16	32.0
11.	TI[1]	GIAE [a]	1	2.9	7	20.0	21	60.0	6	17.1
		GCE [b]	1	2.9	7	20.0	18	51.4	9	25.7
		SFCE [c]	1	2.0	3	6.0	28	56.0	18	36.0
12.	TI[2]	GIAE [a]	1	2.9	3	8.6	18	51.4	13	37.1
		GCE [b]	1	2.9	4	11.4	18	51.4	12	34.3
		SFCE [c]	1	2.0	1	2.0	26	52.0	22	44.0
13.	TI[3]	GIAE [a]	1	2.9	3	8.6	24	68.6	7	20.0
		GCE [b]	1	2.9	2	5.7	21	60.0	11	31.4
		SFCE [c]	0	0.0	2	4.0	29	58.0	19	38.0

Sr. No.	Statement Code	TOI	SD		D		A		SA	
			N	%	N	%	N	%	N	%
14.	TI[4]	GIAE [a]	1	2.9	4	11.4	19	54.3	11	31.4
		GCE [b]	0	0.0	6	17.1	13	37.1	16	45.7
		SFCE [c]	0	0.0	4	8.0	31	62.0	15	30.0
15.	TI[5]	GIAE [a]	0	0.0	3	8.6	22	62.9	10	28.6
		GCE [b]	1	2.9	6	17.1	19	54.3	9	25.7
		SFCE [c]	2	4.0	8	16.0	22	44.0	18	36.0
16.	RI[1]	GIAE [a]	0	0.0	2	5.7	26	74.3	7	20.0
		GCE [b]	0	0.0	3	8.6	22	62.9	10	28.6
		SFCE [c]	0	0.0	1	2.0	24	48.0	25	50.0
17.	RI[2]	GIAE [a]	0	0.0	6	17.1	22	62.9	7	20.0
		GCE [b]	0	0.0	1	2.9	20	57.1	14	40.0
		SFCE [c]	1	2.0	1	2.0	23	46.0	25	50.0
18.	PI[1]	GIAE [a]	1	2.9	5	14.3	19	54.3	10	28.6
		GCE [b]	1	2.9	5	14.3	22	62.9	7	20.0
		SFCE [c]	0	0.0	2	4.0	21	42.0	27	54.0
19.	PI[2]	GIAE [a]	1	2.9	8	22.9	15	42.9	11	31.4
		GCE [b]	0	0.0	9	25.7	22	62.9	4	11.4
		SFCE [c]	0	0.0	4	8.0	28	56.0	18	36.0
20.	PI[3]	GIAE [a]	0	0.0	9	25.7	16	45.7	10	28.6
		GCE [b]	0	0.0	4	11.4	21	60.0	10	28.6
		SFCE [c]	0	0.0	2	4.0	25	50.0	23	46.0
21.	EI[1]	GIAE [a]	3	8.6	10	28.6	16	45.7	6	17.1
		GCE [b]	3	8.6	11	31.4	19	54.3	2	5.7
		SFCE [c]	0	0.0	5	10.0	30	60.0	15	30.0
22.	EI[2]	GIAE [a]	2	5.7	8	22.9	14	40.0	11	31.4
		GCE [b]	1	2.9	4	11.4	22	62.9	8	22.9
		SFCE [c]	0	0.0	1	2.0	32	64.0	17	34.0
23.	PDP[1]	GIAE [a]	1	2.9	4	11.4	16	45.7	14	40.0
		GCE [b]	2	5.7	1	2.9	19	54.3	13	37.1
		SFCE [c]	1	2.0	1	2.0	18	36.0	30	60.0
24.	PDP[2]	GIAE [a]	1	2.9	6	17.1	18	51.4	10	28.6
		GCE [b]	0	0.0	3	8.6	24	68.6	8	22.9
		SFCE [c]	0	0.0	1	2.0	29	58.0	20	40.0
25.	PDP[3]	GIAE [a]	0	0.0	5	14.3	21	60.0	9	25.7
		GCE [b]	0	0.0	1	2.9	25	71.4	9	25.7
		SFCE [c]	0	0.0	1	2.0	28	56.0	21	42.0
26.	PDP[4]	GIAE [a]	0	0.0	4	11.4	20	57.1	11	31.4
		GCE [b]	1	2.9	3	8.6	22	62.9	9	25.7
		SFCE [c]	1	2.0	3	6.0	32	64.0	14	28.0
27.	PDP[5]	GIAE [a]	0	0.0	5	14.3	29	82.9	1	2.9
		GCE [b]	1	2.9	3	8.6	21	60.0	10	28.6
		SFCE [c]	1	2.0	3	6.0	30	60.0	16	32.0

Sr. No.	Statement Code	TOI	SD		D		A		SA	
			N	%	N	%	N	%	N	%
28.	EP[1]	GIAE [a]	3	8.6	5	14.3	16	45.7	11	31.4
		GCE [b]	3	8.6	2	5.7	23	65.7	7	20.0
		SFCE [c]	1	2.0	3	6.0	32	64.0	14	28.0
29.	EP[2]	GIAE [a]	0	0.0	4	11.4	20	57.1	11	31.4
		GCE [b]	0	0.0	3	8.6	22	62.9	10	28.6
		SFCE [c]	0	0.0	0	0.0	25	50.0	25	50.0
30.	EP[3]	GIAE [a]	0	0.0	5	14.3	21	60.0	9	25.7
		GCE [b]	1	2.9	4	11.4	15	42.9	15	42.9
		SFCE [c]	0	0.0	2	4.0	33	66.0	15	30.0
31.	PP[1]	GIAE [a]	0	0.0	10	28.6	18	51.4	7	20.0
		GCE [b]	2	5.7	5	14.3	23	65.7	5	14.3
		SFCE [c]	1	2.0	5	10.0	29	58.0	15	30.0
32.	PP[2]	GIAE [a]	1	2.9	2	5.7	24	68.6	8	22.9
		GCE [b]	1	2.9	1	2.9	21	60.0	12	34.3
		SFCE [c]	0	0.0	2	4.0	26	52.0	22	44.0
33.	PP[3]	GIAE [a]	0	0.0	7	20.0	14	40.0	14	40.0
		GCE [b]	1	2.9	2	5.7	17	48.6	15	42.9
		SFCE [c]	1	2.0	2	4.0	27	54.0	20	40.0
34.	PP[4]	GIAE [a]	0	0.0	4	11.4	25	71.4	6	17.1
		GCE [b]	0	0.0	5	14.3	17	48.6	13	37.1
		SFCE [c]	0	0.0	1	2.0	21	42.0	28	56.0
35.	PP[5]	GIAE [a]	0	0.0	8	22.9	21	60.0	6	17.1
		GCE [b]	1	0.0	11	31.4	15	42.9	9	25.7
		SFCE [c]	0	0.0	1	2.0	30	60.0	19	38.0
36.	TP[1]	GIAE [a]	0	0.0	2	5.7	29	82.9	4	11.4
		GCE [b]	1	2.9	5	14.3	21	60.0	8	22.9
		SFCE [c]	1	2.0	1	2.0	32	64.0	16	32.0
37.	TP[2]	GIAE [a]	0	0.0	6	17.1	27	77.1	2	5.7
		GCE [b]	1	2.9	8	22.9	15	42.9	11	31.4
		SFCE [c]	1	2.0	2	4.0	34	68.0	13	26.0
38.	TP[3]	GIAE [a]	1	2.9	7	20.0	21	60.0	6	17.1
		GCE [b]	1	2.9	13	37.1	14	40.0	7	20.0
		SFCE [c]	0	0.0	7	14.0	35	70.0	8	16.0
39.	ANARPr[1]	GIAE [a]	5	14.3	20	57.1	4	11.4	6	17.1
		GCE [b]	12	34.3	16	45.7	4	11.4	3	8.6
		SFCE [c]	8	16.0	22	44.0	9	18.0	11	22.0
40.	ANARPr[2]	GIAE [a]	1	2.9	4	11.4	16	45.7	14	40.0
		GCE [b]	1	2.9	2	5.7	14	40.0	18	51.4
		SFCE [c]	0	0.0	1	2.0	33	66.0	16	32.0
41.	ANARPr[3]	GIAE [a]	1	2.9	8	22.9	21	60.0	5	14.3
		GCE [b]	1	2.9	7	20.0	15	42.9	12	34.3
		SFCE [c]	0	0.0	7	14.0	37	74.0	6	12.0

Sr. No.	Statement Code	TOI	SD		D		A		SA	
			N	%	N	%	N	%	N	%
42.	ANARPr$_4$	GIAE [a]	2	5.7	2	5.7	20	57.1	11	31.4
		GCE [b]	1	2.9	4	11.4	15	42.9	15	42.9
		SFCE [c]	0	0.0	4	8.0	30	60.0	16	32.0
43.	ANARPr$_5$	GIAE [a]	0	0.0	7	20.0	22	62.9	6	17.1
		GCE [b]	0	0.0	5	14.3	19	54.3	11	31.4
		SFCE [c]	0	0.0	4	8.0	30	60.0	16	32.0
44.	ANARPr$_6$	GIAE [a]	0	0.0	6	17.1	21	60.0	8	22.9
		GCE [b]	0	0.0	5	14.3	21	60.0	9	25.7
		SFCE [c]	2	4.0	3	6.0	35	70.0	10	20.0
45.	RCPr$_1$	GIAE [a]	1	2.9	2	5.7	18	51.4	14	40.0
		GCE [b]	1	2.9	4	11.4	22	62.9	8	22.9
		SFCE [c]	1	2.0	4	8.0	33	66.0	12	24.0
46.	RCPr$_2$	GIAE [a]	0	0.0	6	17.1	19	54.3	10	28.6
		GCE [b]	0	0.0	5	14.3	22	62.9	8	22.9
		SFCE [c]	0	0.0	4	8.0	33	66.0	13	26.0
47.	RCPr$_3$	GIAE [a]	0	0.0	7	20.0	18	51.4	10	28.6
		GCE [b]	0	0.0	6	17.1	18	51.4	11	31.4
		SFCE [c]	0	0.0	6	12.0	29	58.0	15	30.0
48.	PTPr$_1$	GIAE [a]	1	2.9	12	34.3	16	45.7	6	17.1
		GCE [b]	1	2.9	8	22.9	21	60.0	5	14.3
		SFCE [c]	0	0.0	9	18.0	34	68.0	7	14.0
49.	PTPr$_2$	GIAE [a]	1	2.9	10	28.6	16	45.7	8	22.9
		GCE [b]	0	0.0	7	20.0	17	48.6	11	31.4
		SFCE [c]	0	0.0	4	8.0	31	62.0	15	30.0
50.	PTPr$_3$	GIAE [a]	1	2.9	4	11.4	20	57.1	10	28.6
		GCE [b]	1	2.9	9	25.7	15	42.9	10	28.6
		SFCE [c]	3	6.0	2	4.0	32	64.0	13	26.0
51.	ERPr$_1$	GIAE [a]	0	0.0	5	14.3	19	54.3	11	31.4
		GCE [b]	0	0.0	3	8.6	13	37.1	19	54.3
		SFCE [c]	1	2.0	5	10.0	31	62.0	13	26.0
52.	ERPr$_2$	GIAE [a]	0	0.0	7	20.0	24	68.6	4	11.4
		GCE [b]	0	0.0	4	11.4	25	71.4	6	17.1
		SFCE [c]	1	2.0	4	8.0	35	70.0	10	20.0
53.	SRPr$_1$	GIAE [a]	3	8.6	9	25.7	18	51.4	5	14.3
		GCE [b]	1	2.9	15	42.9	15	42.9	4	11.4
		SFCE [c]	0	0.0	14	28.0	28	56.0	8	16.0
54.	SRPr$_2$	GIAE [a]	0	0.0	8	22.9	17	48.6	10	28.6
		GCE [b]	0	0.0	7	20.0	16	45.7	12	34.3
		SFCE [c]	0	0.0	4	8.0	35	70.0	11	22.0

Note: *SD = Strongly Disagree; D = Disagree; A = Agree; and SA = Strongly Agree.*
GCE = Government Colleges of Education; GIACE = Grant-in-Aid Colleges of Education; and SF = Self-Financed Colleges of Education.
n [a] = 35; n [b] = 35; and n [c] = 50.

Appendix S - VII
Statementwise Observed Frequencies and Percentages of Principals of Colleges of Education corresponding to Four Options of ESIBP-PCE with respect to State

Sr. No.	Statements	State	SD		D		A		SA	
			N	%	N	%	N	%	N	%
1.	MV_1	HP [a]	0	0.0	0	0.0	1	33.3	2	66.7
		HR [b]	0	0.0	1	10.0	3	30.0	6	60.0
		PB [c]	0	0.0	0	0.0	9	81.8	2	18.2
2.	MV_2	HP [a]	0	0.0	0	0.0	3	100.0	0	0.0
		HR [b]	0	0.0	0	0.0	7	70.0	3	30.0
		PB [c]	0	0.0	1	9.1	8	72.7	2	18.2
3.	MV_3	HP [a]	0	0.0	0	0.0	2	66.7	1	33.3
		HR [b]	0	0.0	1	10.0	5	50.0	4	40.0
		PB [c]	0	0.0	2	18.2	6	54.5	3	27.3
4.	MV_4	HP [a]	0	0.0	0	0.0	1	33.3	2	66.7
		HR [b]	0	0.0	3	30.0	3	30.0	4	40.0
		PB [c]	0	0.0	5	45.5	5	45.5	1	9.1
5.	PO_1	HP [a]	0	0.0	0	0.0	2	66.7	1	33.3
		HR [b]	0	0.0	1	10.0	4	40.0	5	50.0
		PB [c]	0	0.0	2	18.2	7	63.6	2	18.2
6.	PO_2	HP [a]	0	0.0	1	33.3	1	33.3	1	33.3
		HR [b]	0	0.0	1	10.0	6	60.0	3	30.0
		PB [c]	1	9.1	2	18.2	7	63.6	1	9.1
7.	PO_3	HP [a]	0	0.0	0	0.0	2	66.7	1	33.3
		HR [b]	0	0.0	0	0.0	7	70.0	3	30.0
		PB [c]	0	0.0	3	27.3	7	63.6	1	9.1
8.	PO_4	HP [a]	0	0.0	0	0.0	1	33.3	2	66.7
		HR [b]	0	0.0	0	0.0	8	80.0	2	20.0
		PB [c]	1	9.1	5	45.5	4	36.4	1	9.1
9.	AEI_1	HP [a]	0	0.0	0	0.0	1	33.3	2	66.7
		HR [b]	0	0.0	0	0.0	5	50.0	5	50.0
		PB [c]	0	0.0	2	18.2	8	72.7	1	9.1
10.	AEI_2	HP [a]	0	0.0	0	0.0	2	66.7	1	33.3
		HR [b]	0	0.0	0	0.0	6	60.0	4	40.0
		PB [c]	0	0.0	1	9.1	8	72.7	2	18.2
11.	AEI_3	HP [a]	0	0.0	0	0.0	3	100.0	0	0.0
		HR [b]	0	0.0	0	0.0	8	80.0	2	20.0
		PB [c]	0	0.0	3	27.3	7	63.6	1	9.1
12.	AEI_4	HP [a]	0	0.0	0	0.0	3	100.0	0	0.0
		HR [b]	1	10.0	1	10.0	5	50.0	3	30.0
		PB [c]	0	0.0	1	9.1	9	81.8	1	9.1
13.	AEI_5	HP [a]	1	33.3	0	0.0	1	33.3	1	33.3
		HR [b]	0	0.0	1	10.0	5	50.0	4	40.0
		PB [c]	1	9.1	1	9.1	8	72.7	1	9.1

Sr. No.	Statements	State	SD		D		A		SA	
			N	%	N	%	N	%	N	%
14.	RI$_1$	HP [a]	0	0.0	1	33.3	0	0.0	2	66.7
		HR [b]	0	0.0	0	0.0	7	70.0	3	30.0
		PB [c]	0	0.0	1	9.1	9	81.8	1	9.1
15.	RI$_2$	HP [a]	0	0.0	2	66.7	0	0.0	1	33.3
		HR [b]	0	0.0	0	0.0	7	70.0	3	30.0
		PB [c]	0	0.0	3	27.3	6	54.5	2	18.2
16.	RI$_3$	HP [a]	0	0.0	1	33.3	1	33.3	1	33.3
		HR [b]	0	0.0	0	0.0	4	40.0	6	60.0
		PB [c]	0	0.0	1	9.1	8	72.7	2	18.2
17.	TI$_1$	HP [a]	0	0.0	0	0.0	2	66.7	1	33.3
		HR [b]	0	0.0	0	0.0	5	50.0	5	50.0
		PB [c]	1	9.1	1	9.1	6	54.5	3	27.3
18.	TI$_2$	HP [a]	0	0.0	1	33.3	1	33.3	1	33.3
		HR [b]	0	0.0	1	10.0	5	50.0	4	40.0
		PB [c]	1	9.1	0	0.0	8	72.7	2	18.2
19.	TI$_3$	HP [a]	0	0.0	1	33.3	1	33.3	1	33.3
		HR [b]	0	0.0	1	10.0	5	50.0	4	40.0
		PB [c]	0	0.0	2	18.2	6	54.5	3	27.3
20.	TI$_4$	HP [a]	0	0.0	1	33.3	2	66.7	0	0.0
		HR [b]	0	0.0	0	0.0	5	50.0	5	50.0
		PB [c]	0	0.0	1	9.1	6	54.5	4	36.4
21.	PI$_1$	HP [a]	0	0.0	0	0.0	1	33.3	2	66.7
		HR [b]	0	0.0	1	10.0	3	30.0	6	60.0
		PB [c]	0	0.0	2	18.2	5	45.5	4	36.4
22.	PI$_2$	HP [a]	0	0.0	1	33.3	1	33.3	1	33.3
		HR [b]	0	0.0	1	10.0	6	60.0	3	30.0
		PB [c]	0	0.0	1	9.1	6	54.5	4	36.4
23.	PI$_3$	HP [a]	0	0.0	1	33.3	1	33.3	1	33.3
		HR [b]	1	10.0	0	0.0	6	60.0	3	30.0
		PB [c]	1	9.1	1	9.1	7	63.6	2	18.2
24.	AAP$_1$	HP [a]	0	0.0	0	0.0	1	33.3	2	66.7
		HR [b]	0	0.0	0	0.0	5	50.0	5	50.0
		PB [c]	1	9.1	1	9.1	7	63.6	2	18.2
25.	AAP$_2$	HP [a]	0	0.0	0	0.0	1	33.3	2	66.7
		HR [b]	0	0.0	0	0.0	6	60.0	4	40.0
		PB [c]	0	0.0	1	9.1	5	45.5	5	45.5
26.	AAP$_3$	HP [a]	1	33.3	0	0.0	0	0.0	2	66.7
		HR [b]	0	0.0	0	0.0	6	60.0	4	40.0
		PB [c]	1	9.1	0	0.0	8	72.7	2	18.2
27.	AAP$_4$	HP [a]	0	0.0	0	0.0	1	33.3	2	66.7
		HR [b]	0	0.0	0	0.0	6	60.0	4	40.0
		PB [c]	0	0.0	1	9.1	8	72.7	2	18.2

Sr. No.	Statements	State	SD		D		A		SA	
			N	%	N	%	N	%	N	%
28.	PP$_1$	HP [a]	0	0.0	0	0.0	3	100.0	0	0.0
		HR [b]	0	0.0	1	10.0	6	60.0	3	30.0
		PB [c]	0	0.0	1	9.1	7	63.6	3	27.3
29.	PP$_2$	HP [a]	0	0.0	1	33.3	2	66.7	0	0.0
		HR [b]	1	10.0	0	0.0	7	70.0	2	20.0
		PB [c]	0	0.0	1	9.1	8	72.7	2	18.2
30.	PP$_3$	HP [a]	0	0.0	0	0.0	1	33.3	2	66.7
		HR [b]	0	0.0	0	0.0	5	50.0	5	50.0
		PB [c]	1	9.1	0	0.0	6	54.5	4	36.4
31.	PP$_4$	HP [a]	1	33.3	0	0.0	0	0.0	2	66.7
		HR [b]	0	0.0	2	20.0	6	60.0	2	20.0
		PB [c]	0	0.0	0	0.0	9	81.8	2	18.2
32.	TEP$_1$	HP [a]	0	0.0	0	0.0	0	0.0	3	100.0
		HR [b]	0	0.0	0	0.0	5	50.0	5	50.0
		PB [c]	0	0.0	1	9.1	7	63.6	3	27.3
33.	TEP$_2$	HP [a]	0	0.0	0	0.0	2	66.7	1	33.3
		HR [b]	0	0.0	0	0.0	7	70.0	3	30.0
		PB [c]	0	0.0	3	27.3	3	27.3	5	45.5
34.	TEP$_3$	HP [a]	1	33.3	0	0.0	0	0.0	2	66.7
		HR [b]	0	0.0	0	0.0	5	50.0	5	50.0
		PB [c]	0	0.0	0	0.0	6	54.5	5	45.5
35.	TEP$_4$	HP [a]	0	0.0	1	33.3	2	66.7	0	0.0
		HR [b]	0	0.0	0	0.0	6	60.0	4	40.0
		PB [c]	0	0.0	1	9.1	7	63.6	3	27.3
36.	TEP$_5$	HP [a]	0	0.0	1	33.3	2	66.7	0	0.0
		HR [b]	0	0.0	1	10.0	5	50.0	4	40.0
		PB [c]	0	0.0	1	9.1	8	72.7	2	18.2
37.	TEP$_6$	HP [a]	0	0.0	0	0.0	1	33.3	2	66.7
		HR [b]	0	0.0	0	0.0	5	50.0	5	50.0
		PB [c]	1	9.1	1	9.1	5	45.5	4	36.4
38.	TEP$_7$	HP [a]	0	0.0	0	0.0	1	33.3	2	66.7
		HR [b]	0	0.0	1	10.0	4	40.0	5	50.0
		PB [c]	0	0.0	0	0.0	8	72.7	3	27.3
39.	TEP$_8$	HP [a]	1	33.3	0	0.0	1	33.3	1	33.3
		HR [b]	0	0.0	1	10.0	8	80.0	1	10.0
		PB [c]	0	0.0	1	9.1	7	63.6	3	27.3
40.	APr$_1$	HP [a]	1	33.3	1	33.3	1	33.3	0	0.0
		HR [b]	1	10.0	4	40.0	3	30.0	2	20.0
		PB [c]	1	9.1	4	36.4	4	36.4	2	18.2
41.	APr$_2$	HP [a]	1	33.3	0	0.0	2	66.7	0	0.0
		HR [b]	0	0.0	3	30.0	6	60.0	1	10.0
		PB [c]	1	9.1	4	36.4	4	36.4	2	18.2

Sr. No.	Statements	State	SD		D		A		SA	
			N	%	N	%	N	%	N	%
42.	APr$_3$	HP [a]	0	0.0	0	0.0	1	33.3	2	66.7
		HR [b]	0	0.0	2	20.0	6	60.0	2	20.0
		PB [c]	1	9.1	0	0.0	9	81.8	1	9.1
43.	APr$_4$	HP [a]	0	0.0	1	33.3	2	66.7	0	0.0
		HR [b]	0	0.0	1	10.0	7	70.0	2	20.0
		PB [c]	1	9.1	1	9.1	6	54.5	3	27.3
44.	APr$_5$	HP [a]	0	0.0	1	0.0	0	33.3	2	67.7
		HR [b]	0	0.0	2	20.0	6	60.0	2	20.0
		PB [c]	0	0.0	1	9.1	7	63.6	3	27.3
45.	MPr$_1$	HP [a]	0	0.0	0	0.0	1	33.3	2	66.7
		HR [b]	0	0.0	1	10.0	8	80.0	1	10.0
		PB [c]	0	0.0	1	9.1	9	81.8	1	9.1
46.	MPr$_2$	HP [a]	0	0.0	0	0.0	1	33.3	2	66.7
		HR [b]	0	0.0	2	20.0	6	60.0	2	20.0
		PB [c]	0	0.0	1	9.1	8	72.7	2	18.2
47.	MPr$_3$	HP [a]	0	0.0	0	0.0	1	33.3	2	66.7
		HR [b]	0	0.0	1	10.0	8	80.0	1	10.0
		PB [c]	0	0.0	1	9.1	8	72.7	2	18.2
48.	TPr$_1$	HP [a]	0	0.0	0	0.0	0	0.0	3	100.0
		HR [b]	0	0.0	0	0.0	7	70.0	3	30.0
		PB [c]	0	0.0	1	9.1	5	45.5	5	45.5
49.	TPr$_2$	HP [a]	0	0.0	0	0.0	0	0.0	3	100.0
		HR [b]	0	0.0	0	0.0	8	80.0	2	20.0
		PB [c]	0	0.0	2	18.2	5	45.5	4	36.4
50.	TPr$_3$	HP [a]	0	0.0	0	0.0	1	33.3	2	66.7
		HR [b]	0	0.0	2	20.0	6	60.0	2	20.0
		PB [c]	1	9.1	1	9.1	8	72.7	1	9.1
51.	TPr$_4$	HP [a]	0	0.0	0	0.0	2	66.7	1	33.3
		HR [b]	0	0.0	2	20.0	6	60.0	2	20.0
		PB [c]	1	9.1	1	9.1	7	63.6	2	18.2

Note: *SD = Strongly Disagree; D = Disagree; A = Agree; and SA = Strongly Agree.*
HP = Himachal Pradesh; HR = Haryana; and PB = Punjab.
n [a] = 3; n [b] = 10; and n [c] = 11.

Appendix S - VIII

Statementwise Observed Frequencies and Percentages of Principals of Colleges of Education corresponding to Four Options of ESIBP-PCE with respect to University

Sr. No.	Statement Code	University	SD		D		A		SA	
			N	%	N	%	N	%	N	%
1.	MV_1	SGU [a]	0	0.0	1	4.8	12	57.1	8	38.1
		PU [b]	0	0.0	0	0.0	1	33.3	2	66.7
2.	MV_2	SGU [a]	0	0.0	1	4.8	16	76.2	4	19.0
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
3.	MV_3	SGU [a]	0	0.0	3	14.3	12	57.1	6	28.6
		PU [b]	0	0.0	0	0.0	1	33.3	2	66.7
4.	MV_4	SGU [a]	0	0.0	7	33.3	8	38.1	6	28.6
		PU [b]	0	0.0	1	33.3	1	33.3	1	33.3
5.	PO_1	SGU [a]	0	0.0	3	14.3	11	52.4	7	33.3
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
6.	PO_2	SGU [a]	1	4.8	3	14.3	14	66.7	3	14.3
		PU [b]	0	0.0	1	33.3	0	0.0	2	66.7
7.	PO_3	SGU [a]	0	0.0	3	14.3	13	61.9	5	23.8
		PU [b]	0	0.0	0	0.0	3	100.0	0	0.0
8.	PO_4	SGU [a]	1	4.8	4	19.0	11	52.4	5	23.8
		PU [b]	0	0.0	1	33.3	2	66.7	0	0.0
9.	AEI_1	SGU [a]	0	0.0	2	9.5	11	52.4	8	38.1
		PU [b]	0	0.0	0	0.0	3	100.0	0	0.0
10.	AEI_2	SGU [a]	0	0.0	1	4.8	14	66.7	6	28.6
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
11.	AEI_3	SGU [a]	0	0.0	3	14.3	15	71.4	3	14.3
		PU [b]	0	0.0	0	0.0	3	100.0	0	0.0
12.	AEI_4	SGU [a]	1	4.8	2	9.5	14	66.7	4	19.0
		PU [b]	0	0.0	0	0.0	3	100.0	0	0.0
13.	AEI_5	SGU [a]	2	9.5	2	9.5	11	52.4	6	28.6
		PU [b]	0	0.0	0	0.0	3	100.0	0	0.0
14.	RI_1	SGU [a]	0	0.0	2	9.5	14	66.7	5	23.8
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
15.	RI_2	SGU [a]	0	0.0	5	23.8	12	57.1	4	19.0
		PU [b]	0	0.0	0	0.0	1	33.3	2	66.7
16.	RI_3	SGU [a]	0	0.0	2	9.5	11	52.4	8	38.1
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
17.	TI_1	SGU [a]	1	4.8	1	4.8	10	47.6	9	42.9
		PU [b]	0	0.0	0	0.0	3	100.0	0	0.0
18.	TI_2	SGU [a]	1	4.8	2	9.5	12	57.1	6	28.6
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
19.	TI_3	SGU [a]	0	0.0	4	19.0	10	47.6	7	33.3
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3

Sr. No.	Statement Code	University	SD		D		A		SA	
			N	%	N	%	N	%	N	%
20.	TI$_4$	SGU [a]	0	0.0	2	9.5	11	52.4	8	38.1
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
21.	PI$_1$	SGU [a]	0	0.0	3	14.3	8	38.1	10	47.6
		PU [b]	0	0.0	0	0.0	1	33.3	2	66.7
22.	PI$_2$	SGU [a]	0	0.0	3	14.3	10	47.6	8	38.1
		PU [b]	0	0.0	0	0.0	3	100.0	0	0.0
23.	PI$_3$	SGU [a]	2	9.5	2	9.5	12	57.1	5	23.8
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
24.	AAP$_1$	SGU [a]	1	4.8	1	4.8	10	47.6	9	42.9
		PU [b]	0	0.0	0	0.0	3	100.0	0	0.0
25.	AAP$_2$	SGU [a]	0	0.0	1	4.8	10	47.6	10	47.6
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
26.	AAP$_3$	SGU [a]	2	9.5	0	0.0	12	57.1	7	33.3
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
27.	AAP$_4$	SGU [a]	0	0.0	1	4.8	13	61.9	7	33.3
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
28.	PP$_1$	SGU [a]	0	0.0	2	9.5	13	61.9	6	28.6
		PU [b]	0	0.0	0	0.0	3	100.0	0	0.0
29.	PP$_2$	SGU [a]	1	4.8	2	9.5	14	66.7	4	19.0
		PU [b]	0	0.0	0	0.0	3	100.0	0	0.0
30.	PP$_3$	SGU [a]	1	4.8	0	0.0	10	47.6	10	47.6
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
31.	PP$_4$	SGU [a]	1	4.8	2	9.5	13	61.9	5	23.8
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
32.	TEP$_1$	SGU [a]	0	0.0	1	4.8	10	47.6	10	47.6
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
33.	TEP$_2$	SGU [a]	0	0.0	3	14.3	11	52.4	7	33.3
		PU [b]	0	0.0	0	0.0	1	33.3	2	66.7
34.	TEP$_3$	SGU [a]	1	4.8	0	0.0	10	47.6	10	47.6
		PU [b]	0	0.0	0	0.0	1	33.3	2	66.7
35.	TEP$_4$	SGU [a]	0	0.0	2	9.5	13	61.9	6	28.6
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
36.	TEP$_5$	SGU [a]	0	0.0	3	14.3	13	61.9	5	23.8
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
37.	TEP$_6$	SGU [a]	1	4.8	1	4.8	9	42.9	10	47.6
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
38.	TEP$_7$	SGU [a]	0	0.0	1	4.8	12	57.1	8	38.1
		PU [b]	0	0.0	0	0.0	1	33.3	2	66.7
39.	TEP$_8$	SGU [a]	1	4.8	2	9.5	14	66.7	4	19.0
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
40.	APr$_1$	SGU [a]	2	9.5	7	33.3	8	38.1	4	19.0
		PU [b]	1	33.3	2	66.7	0	0.0	0	0.0

Sr. No.	Statement Code	University	SD		D		A		SA	
			N	%	N	%	N	%	N	%
41.	APr$_2$	SGU [a]	2	9.5	5	23.8	12	57.1	2	9.5
		PU [b]	0	0.0	2	66.7	0	0.0	1	33.3
42.	APr$_3$	SGU [a]	1	4.8	2	9.5	14	66.7	4	19.0
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
43.	APr$_4$	SGU [a]	1	4.8	3	14.3	14	66.7	3	14.3
		PU [b]	0	0.0	0	0.0	1	33.3	2	66.7
44.	APr$_5$	SGU [a]	0	0.0	3	14.3	14	66.7	6	28.6
		PU [b]	0	0.0	0	0.0	1	33.3	2	66.7
45.	MPr$_1$	SGU [a]	0	0.0	2	9.5	16	76.2	3	14.3
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
46.	MPr$_2$	SGU [a]	0	0.0	3	14.3	13	61.9	5	23.8
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
47.	MPr$_3$	SGU [a]	0	0.0	2	9.5	15	71.4	4	19.0
		PU [b]	0	0.0	0	0.0	2	66.7	1	33.3
48.	TPr$_1$	SGU [a]	0	0.0	1	4.8	11	52.4	9	42.9
		PU [b]	0	0.0	0	0.0	1	33.3	2	66.7
49.	TPr$_2$	SGU [a]	0	0.0	2	9.5	12	57.1	7	33.3
		PU [b]	0	0.0	0	0.0	1	33.3	2	66.7
50.	TPr$_3$	SGU [a]	1	4.8	3	14.3	14	66.7	3	14.3
		PU [b]	0	0.0	0	0.0	1	33.3	2	66.7
51.	TPr$_4$	SGU [a]	1	4.8	3	14.3	14	66.7	3	14.3
		PU [b]	0	0.0	0	0.0	1	33.3	2	66.7

Note- SD=Strongly Disagree; D=Disagree; A=Agree; and SA=Strongly Agree.

GAU=Grant-in Aid University and PU=Self-Financed University.

n [a] = 21 and n [b] = 7.

Appendix S - IX
Statementwise Observed Frequencies and Percentages of Principals of Colleges of Education corresponding to Four Options of ESIBP-PCE with respect to Type of Institution (TOI)

Sr. No.	Statement Code	TOI	SD		D		A		SA	
			N	%	N	%	N	%	N	%
1.	MV_1	GIACE [a]	0	0.0	0	0.0	3	42.9	4	57.1
		GCE [b]	0	0.0	1	14.3	5	71.4	1	14.3
		SFCE [c]	0	0.0	0	0.0	5	50.0	5	50.0
2.	MV_2	GIACE [a]	0	0.0	0	0.0	4	57.1	3	42.9
		GCE [b]	0	0.0	1	14.3	6	85.7	0	0.0
		SFCE [c]	0	0.0	0	0.0	8	80.0	2	20.0
3.	MV_3	GIACE [a]	0	0.0	1	14.3	3	42.9	3	42.9
		GCE [b]	0	0.0	1	14.3	6	85.7	0	0.0
		SFCE [c]	0	0.0	1	10.0	4	40.0	5	50.0
4.	MV_4	GIACE [a]	0	0.0	3	42.9	3	42.9	1	14.3
		GCE [b]	0	0.0	2	28.6	4	57.1	1	14.3
		SFCE [c]	0	0.0	3	30.0	2	20.0	5	50.0
5.	PO_1	GIACE [a]	0	0.0	1	14.3	4	57.1	2	28.6
		GCE [b]	0	0.0	2	28.6	5	71.4	0	0.0
		SFCE [c]	0	0.0	0	0.0	4	40.0	6	60.0
6.	PO_2	GIACE [a]	0	0.0	0	0.0	5	71.4	2	28.6
		GCE [b]	1	14.3	1	14.3	5	71.4	0	0.0
		SFCE [c]	0	0.0	3	30.0	4	40.0	3	30.0
7.	PO_3	GIACE [a]	0	0.0	1	14.3	5	71.4	1	14.3
		GCE [b]	0	0.0	1	14.3	6	85.7	0	0.0
		SFCE [c]	0	0.0	1	10.0	5	50.0	4	40.0
8.	PO_4	GIACE [a]	0	0.0	2	28.6	4	57.1	1	14.3
		GCE [b]	0	0.0	1	14.3	4	57.1	2	28.6
		SFCE [c]	1	10.0	2	20.0	5	50.0	2	20.0
9.	AEI_1	GIACE [a]	0	0.0	0	0.0	4	57.1	3	42.9
		GCE [b]	0	0.0	1	14.3	5	71.4	1	14.3
		SFCE [c]	0	0.0	1	10.0	5	50.0	4	40.0
10.	AEI_2	GIACE [a]	0	0.0	0	0.0	4	57.1	3	42.9
		GCE [b]	0	0.0	0	0.0	7	100.0	0	0.0
		SFCE [c]	0	0.0	1	10.0	5	50.0	4	40.0
11.	AEI_3	GIACE [a]	0	0.0	0	0.0	5	71.4	2	28.6
		GCE [b]	0	0.0	2	28.6	5	71.4	0	0.0
		SFCE [c]	0	0.0	1	10.0	8	80.0	1	10.0
12.	AEI_4	GIACE [a]	1	14.3	0	0.0	4	57.1	2	28.6
		GCE [b]	0	0.0	1	14.3	6	85.7	0	0.0
		SFCE [c]	0	0.0	1	10.0	7	70.0	2	20.0
13.	AEI_5	GIACE [a]	0	0.0	0	0.0	4	57.1	3	42.9
		GCE [b]	1	14.3	2	28.6	4	57.1	0	0.0
		SFCE [c]	1	10.0	0	0.0	6	60.0	3	30.0

Sr. No.	Statement Code	TOI	SD N	SD %	D N	D %	A N	A %	SA N	SA %
14.	RI₁	GIACE [a]	0	0.0	0	0.0	5	71.4	2	28.6
		GCE [b]	0	0.0	0	0.0	6	85.7	1	14.3
		SFCE [c]	0	0.0	2	20.0	5	50.0	3	30.0
15.	RI₂	GIACE [a]	0	0.0	0	0.0	5	71.4	2	28.6
		GCE [b]	0	0.0	2	28.6	5	71.4	0	0.0
		SFCE [c]	0	0.0	3	30.0	3	30.0	4	40.0
16.	RI₃	GIACE [a]	0	0.0	0	0.0	3	42.9	4	57.1
		GCE [b]	0	0.0	1	14.3	5	71.4	1	14.3
		SFCE [c]	0	0.0	1	10.0	5	50.0	4	40.0
17.	TI₁	GIACE [a]	0	0.0	0	0.0	3	42.9	4	57.1
		GCE [b]	0	0.0	0	0.0	5	71.4	2	28.6
		SFCE [c]	1	10.0	1	10.0	5	50.0	3	30.0
18.	TI₂	GIACE [a]	0	0.0	0	0.0	3	42.9	4	57.1
		GCE [b]	0	0.0	1	14.3	5	71.4	1	14.3
		SFCE [c]	1	10.0	1	10.0	6	60.0	2	20.0
19.	TI₃	GIACE [a]	0	0.0	0	0.0	5	71.4	2	28.6
		GCE [b]	0	0.0	1	14.3	4	57.1	2	28.6
		SFCE [c]	0	0.0	3	30.0	3	30.0	4	40.0
20.	TI₄	GIACE [a]	0	0.0	0	0.0	6	85.7	1	14.3
		GCE [b]	0	0.0	0	0.0	4	57.1	3	42.9
		SFCE [c]	0	0.0	2	20.0	3	30.0	5	50.0
21.	PI₁	GIACE [a]	0	0.0	2	28.6	2	28.6	3	42.9
		GCE [b]	0	0.0	0	0.0	4	57.1	3	42.9
		SFCE [c]	0	0.0	1	10.0	3	30.0	6	60.0
22.	PI₂	GIACE [a]	0	0.0	1	14.3	3	42.9	3	42.9
		GCE [b]	0	0.0	1	14.3	5	71.4	1	14.3
		SFCE [c]	0	0.0	1	10.0	5	50.0	4	40.0
23.	PI₃	GIACE [a]	1	14.3	0	0.0	3	42.9	3	42.9
		GCE [b]	0	0.0	1	14.3	6	85.7	0	0.0
		SFCE [c]	1	10.0	1	10.0	5	50.0	3	30.0
24.	AAP₁	GIACE [a]	0	0.0	0	0.0	4	57.1	3	42.9
		GCE [b]	0	0.0	0	0.0	4	57.1	3	42.9
		SFCE [c]	1	10.0	1	10.0	5	50.0	3	30.0
25.	AAP₂	GIACE [a]	0	0.0	0	0.0	3	42.9	4	57.1
		GCE [b]	0	0.0	0	0.0	5	71.4	2	28.6
		SFCE [c]	0	0.0	1	10.0	4	40.0	5	50.0
26.	AAP₃	GIACE [a]	0	0.0	0	0.0	4	57.1	3	42.9
		GCE [b]	1	14.3	0	0.0	6	85.7	0	0.0
		SFCE [c]	1	10.0	0	0.0	4	40.0	5	50.0
27.	AAP₄	GIACE [a]	0	0.0	0	0.0	5	71.4	2	28.6
		GCE [b]	0	0.0	0	0.0	5	71.4	2	28.6
		SFCE [c]	0	0.0	1	10.0	5	50.0	4	40.0

Sr. No.	Statement Code	TOI	SD		D		A		SA	
			N	%	N	%	N	%	N	%
28.	PP[1]	GIACE [a]	0	0.0	1	14.3	4	57.1	2	28.6
		GCE [b]	0	0.0	1	14.3	5	71.4	1	14.3
		SFCE [c]	0	0.0	0	0.0	7	70.0	3	30.0
29.	PP[2]	GIACE [a]	1	14.3	0	0.0	4	57.1	2	28.6
		GCE [b]	0	0.0	0	0.0	6	85.7	1	14.3
		SFCE [c]	0	0.0	2	20.0	7	70.0	1	10.0
30.	PP[3]	GIACE [a]	0	0.0	0	0.0	3	42.9	4	57.1
		GCE [b]	0	0.0	0	0.0	5	71.4	2	28.6
		SFCE [c]	1	10.0	0	0.0	4	40.0	5	50.0
31.	PP[4]	GIACE [a]	0	0.0	1	14.3	5	71.4	1	14.3
		GCE [b]	1	14.3	1	14.3	5	71.4	0	0.0
		SFCE [c]	0	0.0	0	0.0	5	50.0	5	50.0
32.	TEP[1]	GIACE [a]	0	0.0	0	0.0	4	57.1	3	42.9
		GCE [b]	0	0.0	0	0.0	5	71.4	2	28.6
		SFCE [c]	0	0.0	1	10.0	3	30.0	6	60.0
33.	TEP[2]	GIACE [a]	0	0.0	0	0.0	4	57.1	3	42.9
		GCE [b]	0	0.0	1	14.3	5	71.4	1	14.3
		SFCE [c]	0	0.0	2	20.0	3	30.0	5	50.0
34.	TEP[3]	GIACE [a]	0	0.0	0	0.0	3	42.9	4	57.1
		GCE [b]	1	14.3	0	0.0	5	71.4	1	14.3
		SFCE [c]	0	0.0	0	0.0	3	30.0	7	70.0
35.	TEP[4]	GIACE [a]	0	0.0	0	0.0	6	85.7	1	14.3
		GCE [b]	0	0.0	0	0.0	5	71.4	2	28.6
		SFCE [c]	0	0.0	2	20.0	4	40.0	4	40.0
36.	TEP[5]	GIACE [a]	0	0.0	1	14.3	5	71.4	1	14.3
		GCE [b]	0	0.0	0	0.0	5	71.4	2	28.6
		SFCE [c]	0	0.0	2	20.0	5	50.0	3	30.0
37.	TEP[6]	GIACE [a]	0	0.0	0	0.0	4	57.1	3	42.9
		GCE [b]	0	0.0	0	0.0	5	71.4	2	28.6
		SFCE [c]	1	10.0	1	10.0	2	20.0	6	60.0
38.	TEP[7]	GIACE [a]	0	0.0	1	14.3	4	57.1	2	28.6
		GCE [b]	0	0.0	0	0.0	5	71.4	2	28.6
		SFCE [c]	0	0.0	0	0.0	4	40.0	6	60.0
39.	TEP[8]	GIACE [a]	0	0.0	0	0.0	7	100.0	0	0.0
		GCE [b]	1	14.3	1	14.3	4	57.1	1	14.3
		SFCE [c]	0	0.0	1	10.0	5	50.0	4	40.0
40.	APr[1]	GIACE [a]	0	0.0	3	42.9	3	42.9	1	14.3
		GCE [b]	1	14.3	2	28.6	3	42.9	1	14.3
		SFCE [c]	2	20.0	4	40.0	2	20.0	2	20.0
41.	APr[2]	GIACE [a]	0	0.0	1	14.3	6	85.7	0	0.0
		GCE [b]	0	0.0	2	28.6	4	57.1	1	14.3
		SFCE [c]	2	20.0	4	40.0	2	20.0	2	20.0

Sr. No.	Statement Code	TOI	SD		D		A		SA	
			N	%	N	%	N	%	N	%
42.	APr$_3$	GIACE [a]	0	0.0	0	0.0	5	71.4	2	28.6
		GCE [b]	0	0.0	1	14.3	5	71.4	1	14.3
		SFCE [c]	1	10.0	1	10.0	6	60.0	2	20.0
43.	APr$_4$	GIACE [a]	0	0.0	1	14.3	4	57.1	2	28.6
		GCE [b]	0	0.0	0	0.0	6	85.7	1	14.3
		SFCE [c]	1	10.0	2	20.0	5	50.0	2	20.0
44.	APr$_5$	GIACE [a]	0	0.0	1	14.3	4	57.1	2	28.6
		GCE [b]	0	0.0	1	14.3	4	57.1	2	28.6
		SFCE [c]	0	0.0	1	10.0	5	50.0	4	40.0
45.	MPr$_1$	GIACE [a]	0	0.0	0	0.0	6	85.7	1	14.3
		GCE [b]	0	0.0	1	14.3	4	57.1	2	28.6
		SFCE [c]	0	0.0	1	10.0	8	80.0	1	10.0
46.	MPr$_2$	GIACE [a]	0	0.0	0	0.0	5	71.4	2	28.6
		GCE [b]	0	0.0	2	28.6	4	57.1	1	14.3
		SFCE [c]	0	0.0	1	10.0	6	60.0	3	30.0
47.	MPr$_3$	GIACE [a]	0	0.0	0	0.0	5	71.4	2	28.6
		GCE [b]	0	0.0	2	28.6	5	71.4	0	0.0
		SFCE [c]	0	0.0	0	0.0	7	70.0	3	30.0
48.	TPr$_1$	GIACE [a]	0	0.0	0	0.0	4	57.1	3	42.9
		GCE [b]	0	0.0	1	14.3	3	42.9	3	42.9
		SFCE [c]	0	0.0	0	0.0	5	50.0	5	50.0
49.	TPr$_2$	GIACE [a]	0	0.0	0	0.0	4	57.1	3	42.9
		GCE [b]	0	0.0	1	14.3	4	57.1	2	28.6
		SFCE [c]	0	0.0	1	10.0	5	50.0	4	40.0
50.	TPr$_3$	GIACE [a]	0	0.0	0	0.0	5	71.4	2	28.6
		GCE [b]	0	0.0	2	28.6	5	71.4	0	0.0
		SFCE [c]	1	10.0	1	10.0	5	50.0	3	30.0
51.	TPr$_4$	GIACE [a]	0	0.0	0	0.0	5	71.4	2	28.6
		GCE [b]	0	0.0	2	28.6	5	71.4	0	0.0
		SFCE [c]	1	10.0	1	10.0	5	50.0	3	30.0

Note-   SD=Strongly Disagree; D=Disagree; A=Agree; and SA=Strongly Agree.
GCE = Government Colleges of Education; GIACE = Grant-in-Aid Colleges of Education; and SF = Self-Financed Colleges of Education.
n [a] = 7; n [b] = 7; and n [c] = 10.

Appendix T
List of Experts

Sr. No.	Name of Expert	Designation
1.	Prof. Shankutla Nagpal	**Former Head, NCERT, New Delhi**
2.	Dr. Parminder Kaur	**Principal, Lyallpur Khalsa College of Education for Women, Jalandhar**
3.	Dr. Surinder Kumar	**Principal, L R Institute of Education, Solan, HP**
4.	Dr. Monika Arora	**Associate Professor, CTE, NCERT, New Delhi**
5.	Dr. Sushma Rani	**Principal, Lingya's University, Faridabad, Haryana**
6.	Dr. Neena Dash	**Associate Professor, SOE, Ravenshaw University, Odisha**
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