IMPLEMENTATION OF ICT SCHEME UNDER RASHTRIYA MADHYAMIK SHIKSHA ABHIYAN IN JALANDHAR DISTRICT OF PUNJAB: AN EVALUATIVE STUDY

A DISSERTATION SUBMITTED TO

School of Education

In partial fulfillment of the requirements for the award of the degree of

Master of Education

Submitted
By

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Declaration

I do hereby declare that the dissertation entitled **" Implementation of ICT Scheme under Rashtriya Madhyamik Shiksha Abhiyan in Jalandhar District of Punjab: An Evaluative Study "** submitted in partial fulfilment of the requirement for the degree of Master of Education is entirely my original work and all ideas and references have been duly acknowledge. It does not contain any work that has been submitted for the award of any degree or diploma of any university.

Signature

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Certificate

       This is to certify that **Seema** has completed his/her dissertation entitled **"Implementation of ICT Scheme under Rashtriya Madhyamik Shiksha Abhiyan in Jalandhar District of Punjab: An Evaluative Study ''**under my guidance and supervision. To the best of my knowledge, the present work is the result of her original investigation and study. No part of the dissertation has been submitted for any degree and diploma to any university. The dissertation is fit for submission the partial fulfilment of the requirements for the award of Master of Education degree.

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ACKNOWLEDGEMENT

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ABSTRACT

The present study was conducted to evaluate implementation of ICT scheme under RMSA in terms of Physical Infrastructure, Availability and Utility of Smart School, Professional Growth and Mode of Appraisal of Teachers, Development of E-Content., Availability of Finance, Problems faced in the implementation of ICT scheme, Remedial Measures to overcome the problems for improving and effective functioning of ICT scheme. In the present study, descriptive survey method has been used by the investigator in order to depict the present situation to obtain pertinent and relevant information about ICT scheme. In this study, a sample consisted of 60 school under RMSA was taken from Jalandhar district of Punjab. A self-constructed questionnaire was used by the investigator in order to collect the data from the government and government aided secondary and senior secondary schools under study. The data was collected and analyzed by calculating the percentage of the responses of heads of the sample schools. The study reveals that all schools have ICT lab with proper physical infrastructure and devices such as 10 personal computers, printer, modem, UPS. All of the sample schools haveeducational software and CD ROMs, Operating system & Application software, internet broadband connection in computer lab and proper electrification but some devices like projector, web camera, scanner and video camera was not their which was mention in the scheme. Only half of the sample schools have customized keyboards for use in the regional a few of schools have Wi-Fi network in their computer lab and a few receive additional ICT facilities such as EDUSAT lab and LCD/television. It is found that all sample schools have permanent and some have contract based computer teachers also with essential qualification. Majority computer teachers receive sufficient in-service training for their professional development but only few computer teachers got pre-service and refresher training. The study also reveals that almost all schools provide e content to students in different subjects. The e content is provided in their regional language which is helpful to enhance the comprehensive level of students but only few computer teachers develop e content by themselves. None of sample school receives financial aid for the development of e content and none of computer teacher got training in instructional design. The study also found that all the sample schools are properly utilizing the funds and maintain their records.

Keywords: RMSA, ICT, EDUSAT, LCD, UPS.

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Questionnaire for Heads of Secondary and Senior Secondary Schools under RMSA

LIST OF ABRIBIATION

RMSA	Rashtriya Madhymik Shiksha Abhiyan
ICT	Information and Communication Technology
KGBV	Kasturba Gandhi BalikaVidayalaya
EBBs	Educationally Backward Blocks
NPC	National Policy on Education
SSA	Sarva Shiksha Abhiyan
UEE	Universalisation of Elementary Education
KVs	KendriyaVidyalayas
NVs	NavodayaVidyalayas
NPFGEL	National Programme for education of Girls at Elementary Level
MHRD	Ministry of Human Resource Development
TLM	Teaching Learning Material
RTE	Right to Education
EDUSAT	Education through Satellite
DLMC	District Level Monitoring Committee
ET	Educational Technology
CLASS	Computer Literacy and Studies
NCF	National Curriculum Framework
CAI	Computer assisted instructions
SLM	Self Learning Material
SIET	State Institute of Educational Technology
CIET	Central Institute of Education Technologies
RIE	Regional Institutes of Education

NCTE	National Council for Teacher Education
IT	Information Technology
NCERT	National Council for Educational Research & Training
UTs	Union Territories
PSEB	Punjab School Education Board
UPS	Uninterruptible Power Supply
LCD	Liquid Crystal Display
PC	Personal Computer

CHAPTER I

INTRODUCTION OF THE PROBLEM

Present era is period of advancement of science and technology. Education acts a mean of this advancement .Education brings change in attitudes of human on a road of enrichment and prosperity. It is a conscious effort to train a child for live life happily. Education is the development of whole individual. It is a lifelong process. It develops the innate capabilities of individuals. Mahatma Gandhi viewed that education is process which draw out the best in child and man – body, mind and spirit". It is one that lends dignity to man. Education helps to build up the personality of child by assisting his physical, cognitive, ethical and emotional development. Education play a main role intransforming traditional society into a modern society. In every sphere of national actions education can accelerates the progress of nation. Even no one of the part or section of the society can be ignored or behind because it would hamper the evolution of the whole country. It is the responsibility of each state to do all it could, to train every section of society who need a serving hand in marching ahead along with others. As well as it is the base of noble and rational nationality. Today it is important source in awaking the child to cultural values, in preparing him for later professional preparation and help him to adjust generally to his environment.

The strength of nation lies in democracy, education and educated citizenry. Education is necessary for the democracy on which it is build. Democracy is not merely a form of government; it is a way of life. It is only education which plays a major role to develop knowledge, skills, abilities, talents, capacities, aptitude of people has become the real resources of national development. But in our education system our nation has been facing many problems like lack of resources, low pupil teacher ratio, unsuitable curriculum, unsuitable teaching learning conditions, problem of girl's education, problem of finance etc. Education brings the democratic values among students. Education provides the life Skills to students. The concept of education has great impact on the all aspects of life. It give shape to the perception , aspirations , goals and the means to achieve the Goal of an individual ' s life .According to article number 21(A), The Right of children to free and compulsory education (RTE) Act has   become implemented   with effect form1[st] April 2009 in the entire country. According to this act all

children in the age of 6-14 will have a right to get free and compulsory education in a neighborhood school. The government of India is trying to improve the status of education to enhance the standard of living of the people, national income, social equality equal distribution of national income etc. Kaur (2014) conduct a study on Implementation of Right to Education Act Elementary level in Hoshiarpur district of Punjab and found that most of the elementary schools that provided sufficient infrastructure but not up to mark and also conclude that the funds are provided for teaching learning material but these were not fulfilling the requirements of teachers.

The whole education system of India is constructed and organized at three levels- Elementary education, Secondary education and higher education. Elementary education is that education in which a child receives education between the ages of about 6 to 14. Elementary schools provide education from 1st to 8th class. Elementary education is a 1st stage of compulsory education. It is the base of education. It starts from nursery or first class. Keeping in view many schemes for the universalization of elementary education (UEE) have been implemented by government and state governments throughout India such as SSA (SarvaShikshaAbhiyan), RTE (Right To Education Act), Kasturba Gandhi BalikaVidyalaya Scheme, Mid-Day Meal, National Program for Education of Girls at Elementary Level (NPEGEL) etc. The main objective of SSA programs to provide free and compulsory education to children to the whole country. Man deep Kaur (2009) states that SSA provides various facilities in order to increase the enrolment, retention and attendance of girls in the elementary schools and also to decrease dropout rate of girls. SSA aims to achieve the universalization of elementary education. From the above findings the investigator concluded that SSA is progressing well towards achieve the set of universalization of elementary education. However, as SSA has limited financial provisions for girls' education in the form of "innovations" at district level and free textbooks, and thus there is a need for an additional component. To achieve the objective of SSA, the government of India has implemented the Mid-Day Meal scheme in government and government aided schools. The main purpose of this scheme to provide nutritious food in the schools and enhancing enrolment, retention and attendance of the children's at elementary level. Qudri (2014) conducted a study on Impact of Mid-Day Meal scheme on students Enrolment, Attendance and Retention in Jammu and Kashmir and includes that the objective of increase enrolment, attendance and 100%

retention of students could not be achieved by the majority of schools due to the improper implementation of scheme.

Secondary Education is that stage of education in which the child receives education after completion of elementary education. Secondary education is connecting link between the elementary and higher education. Secondary education receives by to all children's in the age of 14 to 18. Secondary stage of education is said to be the foundation for higher education. From 9th to 10th class constitute lower secondary education and 11th to 12th senior secondary education. The normal age group of children in secondary education classes is 14-16 whereas it is 16-18 for senior secondary classes. In the educational hierarchy, secondary education is a critical stage as it prepares the students for the higher education also for the world for getting livelihood. This strict enforcement for the particular learning system at the secondary and higher secondary stage will enable the students to compete for higher education successfully and for jobs globally. In the past time period the illiterate parents were not understand the importance of education but at present with the effect of modernization the attitude of parent's towards education has to be totally changed. Agarwal (1986) found that the parental encouragement and educational development of the students of secondary stage were positively correlated. Shah (1976) conducted a study on parent attitude towards secondary education in Khasi district of Meghalaya and concludes that educated parents had more favorable attitude towards secondary education than the uneducated parents. The illiterate parents of students are not willing to send their children to schools.

After independence of India, various committees and commissions has been appointed by the government to re organize and improve the structure of education. The appointment of the University Education Commission (1948-49) was the first action of a great significance taken by the Government of India in the field of education. But the commission gave more emphasis on University Education. To bring improvement in the status of secondary education the Government of India appointed the Secondary Education commission in 1952-53. According to this commission the main objectives of secondary Education were develop democratic values among citizens, improvement of vocational competence, development of personality and development of potentials of leadership. The main recommendations of this commission were - open multipurpose schools and vocational schools, diversified curriculum,

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guidance and counseling, technical schools, agricultural schools, use of dynamic methods etc. at the secondary level. But a 'Discussion Paper' of Indian Education Commission (1964-66) observed that the impact of recommendations of Secondary Education Commission during the period of 1953 to 1964 had been very little and the progress in the implementation of recommendations was hardly visible. It remarked "In fact it may be said that the major defects pointed out by the commission still persist in a majority of schools today. The education imparted in these institutions continues to be more or less isolated from life. The curriculum is still narrow and one-sided and not designed to develop the full personality of individual. The method of teaching are large dreary and unimaginative and do not aim at inculcating desirable values and proper attitudes and habits of work among the students."

The improvement of the level of secondary education is directly depends upon the planning and proper financing of the whole education system. If the educational funds will be increased by the government then the standard of education will also be increased. Bhattacharjee (1982) conducted a study on planning and financing in respect of the secondary education in Meghalaya and found that the higher education in the state of Meghalaya is still in the infant stage, so secondary education is the only immediate hope of the state. Biswal (2010) from the study on secondary education concluded that India needs to set up investment in pre-reform actions for generating a supportable environment for initiating change, improving political will, leading strategic management models ensuring stability in change the school level and increasing budgetary provision for making more comprehensive quality secondary education a reality.

Government of India is taking serious step on the universalization of secondary education. Because secondary education not only leads to the national development but also removes the obstacles which comes in the way of the general development of country. Secondary education is the doorway for prosperity, for developing the economy and constructing social justice in any country. It opens the world of work to youth of the nation and contributes the socio economic development of community. At the national level, the vision for secondary education is to make better quality education available, reachable and reasonable to all young persons in the age group of 14-18 years. With this idea in mind, the following is to be achieved: (1) to provide secondary school with in the distance of 5 km. and 7-10 km. for higher secondary schools (2) Ensure universal access of secondary education by 2017. (3) providing access to

secondary education with special reference to financially weaker sections of the society, the educationally backward, the girls and the disabled children residing in rural areas and other categories like SC, ST, OBC and educationally backward minorities.

The main problem of secondary education is wastage and stagnation. The wastage and stagnation at secondary level is maximum. The wastage and stagnation in rural areas is comparatively higher than that of urban areas. Medhi (1988) conducting a study on 'wastage and stagnation was a major problem in secondary schools of Kampur district of Assam' and found that the extent of wastage and stagnation was very high especially in economically backward classes and found illiteracy of parents, their poverty, lack of study atmosphere at home and irregular payments of stipend as a major reasons behind it. Shudhama (1988) found in his study that the incidence of wastage and stagnation among the secondary school students was maximum in standard X, among boys in rural areas as compared to urban and schedule castes and schedule tribes as compared to other caste pupils. Majaw (1991) conducted a study on the levels of education and other related factors including exploration of differences between the dropouts and non-dropouts among the tribal's of Meghalya and conclude that enrolment was highest at primary level and went on decreasing at the middle and high school levels.

1.1 RASHTRIYA MADHYMIK SHIKSHA ABHIYAN

Keeping in the view of importance of secondary education in individual, social and national life it is essential to improve the quality of education and to make the secondary education universalized after achieving the national goals of Universalization of Elementary Education. The Centre and state government are taking various initiatives to improve the structure of secondary education and provide education to the all members of Indian society. RashtriyaMadhymikShikshaAbhiyan (RMSA) is one of the major initiatives taken by the government of India to improve the standard of secondary education and make it universal. It is a central totally sponsored scheme. The scheme was launched in 2009. RMSA is a mission of Ministry of Human Resources and Development (MHRD) for strengthening the secondary education in the whole country. The MHRD has allotted Rs. 20,120 crore during the Eleventh five year plan. The RMSA provides unique opportunity to improve access and quality secondary education in the country. The RashtriyaMadhymikShikshaAbhiyan also aims at refining,

transparency and service delivery mainly at district level. Enhancing quality and promoting curriculum development of secondary education are also considered under RMSA. At present, the role of the state should be to universalize opportunity so as to assist all children to attend secondary school, rather than to universalize access (World Bank 2009). RMSA deals with a planned opportunity to increase access and equity; improve quality, accountability and capability to measure learning outcomes and promote standard of curriculum and examinations in all states of India. To improve the quality of education RMSA aimed at providing important physical facilities like Added class rooms, Laboratories, Art and Craft room, Libraries, Toilet blocks, Drinking water provisions and residential hostels for Teachers in remote areas and important quality interventions i.e. appointment of additional teachers to decrease pupil teacher ratio to 30:1 focus on Science, Math and English education, In-service training of teachers, ICT supported education, Curriculum modifications and teaching learning developments. Rafia (2013) concludes that secondary school teachers are very much aware about RMSA and the scheme is playing significance role to provide quality education to students in secondary schools. But as per the scheme proper physical facilities, human resources and sufficient teaching learning material are not available in the schools

Kaur (2014) concludes that all the model schools have got their own good physical infrastructure but few facilities like auditorium and science lab was not available in majority schools. It is found that all model schools have computer teachers but they are not regular only part time teachers on deputations are appointed in the Model schools. The study reveals that good numbers of students are enrolled in model schools and scheme is proving boon for rural talents. Supervision is done by the district level monitoring committee/society (DLMC) but the supervision is done once in a year. Majority of the model schools faced problems such as funds are not received on time and insufficient, shortage of subject wise regular teaching staff and problem of transport facilities for teachers and students in these schools. Sengar (2014) conduct a study on implementation of RashtriyaMadhyamikShikshaAbhiyan in Hathras district of Uttar Pradesh and revealed that initiative taken to promote access included as provisions of library, laboratory, drinking water facilities, black board, provision of ramp facility and disabled friendly building for disabled children, schools within the radius of 5 kms. Provision of water harvesting system. Further, initiatives taken to promote quality included focus on Math, Science

and English education, majority of the educators attending teacher training programs, provision of bridge courses for improving learning ability of students, adjustment of curriculum to meet NCF, 2005 norms formation of School Management Committee and Parent Teacher Association. Further initiative taken to promote equity included recruitment of more female teachers, free books and uniforms for girl students, provision of scholarships to meritorious/needy students at secondary level the dropout rate of the children showed decline during the academic years (2010-2013). While the enrolment rate of the children gradually increased during the academic years (2010-2013), which points towards good retention of children in secondary schools under RashtriyaMadhyamikShikshaAbhiyan. To provide quality education, improve the standard of education, to make Secondary Education accessible and affordable for the children of 14-18 years to weaker section of society, minorities, educationally backward areas, SC, ST, OBC different schemes has been started under RMSA like Model schools, Inclusive education for disabled, ICT scheme, scheme of vocational education and various scholarship schemes.

1.2 INFORMATION AND COMMUNICATION TECHNOLOGY

ICT is an effective and powerful tool to change the teaching learning process and increasing new opportunities in both formal and non-formal situations. Information and communication technologies is a varied set of technological tools and resources used to communicate, to create and broadcast, collect and manage information. ICT includes radio, television and other high technology newer digital devices like computers, internet, mobile, tablet etc.ICT has the ability to transcend the barrier of time and space. Due to the development of ICT, Teachers and learners no longer solely rely on printed books, libraries for educational needs. Education being one of the central elements in globalization and emerging the world, there is even much more need of new scientific method of teaching and in the field of education. Presentably, all countries in the world are technologically and scientifically and competitive. By the establishment of new millennium, information and communication technology (ICT) became one of the chief programs in the world. ICT has topped the world's most primary industries in commercial field. ICT has created vacancies for many job seekers in all kinds of government or private industries. So, the education by virtue has progressive and manipulate in every aspect to meet present needs and wants of the ever growing society.Sanswal (2000) defined ICT as the use of hardware and software for effective organisation of information, i.e. storage, retrieval,

processing, communication, diffusion and sharing of information for social-economic and cultural development. ICT is not only the strength of the information age, but also an important tool for inducing educational reforms that change students into productive knowledge workers. ICT plays a critical role in information society's educational system. In the redesign and reconstruct educational system based on the new educational paradigms such as constructivist theory so that both teachers and learners develop the necessary knowledge and skills.

ICT allows many people to generate and disseminate information thus playing an active role in the process of interaction between professionals, learners, policy makers, etc. In recent years there has been a groundswell of internet on the ways by which computer and internet can best to improve the efficiency and effectiveness of education at all levels and both formal and non-formal education. Being aware of the significant role of ICT in our life, especially in the educational activities, education authorities should be wise enough in implementing the strategies to empower ICT in supporting the teaching and learning process in the classroom. The National Policy on Education (NPE) 1986, as modified in 1992, stressed the need to employ educational technology to improve the quality of education. The policy statement led to two major centrally sponsored schemes, namely, Educational Technology (ET) and Computer Literacy and Studies (CLASS) paving the way for a more comprehensive centrally sponsored scheme. Educational Technology also found a significance place in another scheme on up gradation of science education. The significant role of ICT can playing school education has also been highlighted in National Curriculum Framework 2005 (NCF).

ICT has revolutionize the field of education. ICT has provided sophisticated tools, techniques and methods. The use of ICT in education helps the students in meeting the challenges in the age of globalization. ICT provide learner centred instructions like CAI (Computer assisted instructions). ICT has enabled learners to become more self-reliant and self-directed in the acquisition of knowledge to cope up with the demands of modern era. It influence all those people which are connected with the education. Such people like teachers, learners, administrators, planners, and researchers. Technology plays a vital role in enhancing the education system. ICT acts as a tool for organization and management in school. In school management ICT plays an important role in school management works like preparation of, time table, annual calendar, school curricular and co-curricular activities, classroom management,

supervision, virtual classroom etc. It also useful for school administration work like to maintain students records, employees records, fees collection and fee records, prepare question banks, testing and evaluation, scholarships records, cumulative records etc.

In the past time teachers were using traditional chalkboards for writing and presenting notice on the boards but at present this process is changing rapidly across the world with the progress of ICT.Jonassen (2000) observed that such interactive tools motivate students precisely because the tools allow them to learn by doing instead of passively watching and listening to a presentation of how the activity is done by someone else. The dynamic aspect in the teaching learning process is the quality based instructions delivered by the teachers to the students. So educators must use ICT to increase the quality of educational instructions. ICT make teaching-learning process cooperating and interesting. Teaching with the use of ICT has become crucial thing for a teacher in the technological era. To provide the better instructions for difficult subjects ICT teaching aid can be more useful than traditional teaching methods. A Teachers can assimilate different types of ICT tools such as LCD, projector, interactive board, smart board, PPTs etc. forprovide better knowledge to students.Rose and Stella (2002) conducted a study on the effectiveness of ICT. The study aimed at to throw light on the use of the computer in education for the optimum development for learners. The study reveals that use of computer in the field of education is more effective for the learners as well as for the teachers. Nagar (2005) explored the effectiveness of computer in teaching science in schools and the main objective of the study were to examine the usefulness of computer in teaching science and the use of computer aided teaching of science. The study examined that computer assisted teaching is beneficial for both learners and teachers.

At present ICT has changed the role of teachers as well as learners. Teacher become facilitator, guide and knowledge navigator and an active co-learner with his students. Now learner become active rather than passive. The teachers have positive attitude towards the use of ICT in education because it provides the up to date knowledge to teachers and make them more efficient in their teaching professional. An educator must utilize the ICT successfully to create the best platform for learning and teaching. Teachers are providing ICT based educational content with audio and video to their students. An audio visual content gives the learners a better learning environment. Teachers can save their work on computer files that cannot be done

through traditional boards. Time has to come to introduce ICT into classroom for effective teaching and learning. ICT enhanced learning mobilizes tools for examination and analysis of information, providing a platform for student inquiry, analysis and construction of new information. Worries and Soloway (2007) conducted a study on instructional material and found that mobile handed computing provides teachers new opportunities for teaching and learning. The findings of the study is that these affordances make it easy to pedagogically valuable instructional strategies that meet the described criteria and their theoretical rationales as well as provide concrete examples of their use in real classroom. Golighty (2008) examined the degree of effectiveness of multimedia technology in teaching in comparison to the traditional print-based teaching methods. The result showed that multimedia technology in teaching is more effective.

The use of ICT in education helps the students in meeting the challenges in the age of globalization. ICT provide learner centred instructions like CAI (Computer assisted instructions). ICT has enabled learners to become more self-reliant and self-directed in the acquisition of knowledge to cope up with the demands of modern era. Kanmani and Radha (2009) conduct a study on effectiveness of CAI packages in basic electronic learning to study attainment of knowledge, understanding and application level of objectives in the gain scores and to study association between the habits of journal reading and gain scores of students. The study revealed that the experimental group students were better than the controlled group students in gain scores with significant difference in attainment of understanding level objectives in the gain scores. Learners synthesize and share the knowledge with their own efforts. It inspire students to express their imagination. E-books/online libraries/online encyclopaedias help to guide in minutes and save precious time and resources. Learners therefore, learn as they do. Through ICT learners can understand in-depth knowledge, making learning less abstract and more relevant to the learner's life situations and in compare to memorization-based or rote memory. ICT is helpful for providing education to the masses at the short time period. It also helpful for distance learner. It help the distance learners through online education and Self Learning Material (SLM). ICT is much beneficial for the students of different learning abilities and disabled or differently abled learners. All type of learners learn on their own pace with the help of ICT. It enable the learner to create, access, store, transmit and manipulate information.

ICT is not just the bloom of the educational activities, but also it will be the secondary option to improve the effective and meaningful educational process. ICT plays a significant role to the development of different language skills like reading, writing and speaking. Bala (2011) concludes that the use of ICT in learning of English pronunciation, grammar and vocabulary of secondary school students was significantly effective over the conventional instructional strategy in case of male and female, rural and urban and total sample of students. ICT is any information and communication device such as radio, television, cellular, phones, computer, satellite system and hardware and software etc. All of these devices are very helpful in the process of teaching-learning. Many of studies show that the performance of students who are learn by effective ICT based methods is much better than the students who are learn through traditional teaching methods. Rani (2014) showed that the traditional school students have below average level of educational aspiration while smart school students have average level of educational aspiration. There exist significant difference between academic achievement of students studying in traditional and smart school. ICT act as a medium for teaching and learning. ICT based learning encourages interaction and cooperation among students and teachers. ICT based learning provide learners the opportunities to work with people from different cultures and develop learning and communicative skills as well as their global awareness. ICT based learning is student-directed and diagnostic. Unlike static, text or print-based educational technologies that there are many different learning ways and many different articulations of knowledge. ICT permits learner to construct and discover rather than only listen and remember. Each ICT device like printer, audio, video, cassettes, radio, TV, broadcasts, computers or internet may be used for presentation and demonstration. Teacher can give multisensory instructions to the students through ICT. It increase the mental faculty of learner and also increase the retention of learners.

1.3 ICT SCHEME FOR SECONDARY SCHOOLS UNDER RMSA

During the 5th five year plan Educational Technology (ET) scheme was start in 1972. According to this scheme 100% financial assistances were given to 6 State Institute of Educational Technology (SIET) and states and union territories were supported for radio, audio player and colored TV. To analyses the significance of ICT in education the Computer Literacy in Schools (CLASS) Project was introduced as a pilot project in 1984-85. A plan was approved as a Centrally Sponsored Scheme in the 8^{th}Plan.The scope of this scheme was broader to arrange

for financial assistances to educational institutions and also to cover new Government and Government aided secondary and senior secondary schools.To provide the computer assisted education to students' three schemes such as Vidyarthi Computer Scheme, Shikshak Computer Scheme and School Computer Schemes were launched by the Prime Minister in 1998. There were the provision of one smart school in each state which were set up for the demonstration purpose. Under this scheme 1 to 3% of the total budget of RMSA spent on establishment of computer in all schools up to secondary and senior secondary level. The ICT (Information and Communication Technology) Scheme was started under RMSA. This scheme was launched in December 2004 and revised in 2010 under RMSA. ICT scheme has been implemented in the government and government aided secondary and senior secondary schools. The main purpose of this programme is to develop ICT skills among the students who are from educationally backward areas with concentration of schedule caste, schedule tribe, minority and other weaker sections of the Indian society. Smart schools at secondary and senior secondary level are very essential for enhance the technical skills among students and ICT education will be an essential part of secondary education. According to this scheme there is a need of trained teachers for effective use of in the process of teaching and learning. There is a provision of compulsory in all secondary schools under ICT scheme to have qualified full time computer teachers in all secondary and higher secondary schools and there should be at least 40 computers in each school. To develop the technological skills among students in various subjects there is arequirementof to develop and use suitable E-content for students. To meet with the technically advanced society it is essential to develop technical skills among students because the development of the nation is depends upon the technically advanced society.

Components of ICT Scheme

The scheme has basically four components.

1. The first component of the scheme is the partnership with state governments and centre government for providing computer assisted education to Secondary and Senior Secondary Government and Government aided schools.

2. The second component is the set up smart schools, which shall be act as a demonstrator for other schools.

3. The third one is teacher's related interventions, such as facility for engagement of a special teacher, ability enhancement of all educator in Information and Communication Technology and a scheme for national ICT honour as a means of encouragement.

4. Fourth component is the development of e content, generally through Central Institute of Education Technologies (CIET), 6 State-owned Institutes of Education Technologies (SIETs) and 5 Regional Institutes of Education (RIEs), as also through outsourcing.

Individual Detail of Each Component

Extension of coverage of schools in partnership with States/centre:

The ICT scheme under RMSA is implemented in government and government aided secondary and senior secondary schools of the country. There is a financial provision for all schools under the scheme. In this scheme main focus on the educationally backward blocks and areas with attention to schedule casts, schedule tribes, minority groups and other weaker sections of the country.

Infrastructure:-Hardware and software: Under the scheme there is a provision of 10 PCs/10 nodes which are attached with a server. Computer devices such as printer, projector, scanner, modem etc. will also be provided to the secondary and higher secondary schools. Each school will have customized keyboards for use in regional language.

Connectivity: Each school would have a broad band internet connection of 2MBPS bandwidth in secondary and higher secondary schools under RMSA. If it is not possible then connection of lower bandwidth would be delivered and this plan will be revised in future. There is also the provision of wireless connection in every secondary and senior secondary school.

Supply Power: If the schools have not appropriate supply of electricity then there is a provision of generator in the ICT scheme and Rs. 1000 per month for the power charges. In those regions where is no power supply, solar packages will be provide to make use of computer laboratory. The personal computers will be established in a safe room in the school. If a safe room is not available in the schools, the need can be under the scheme RashtriyaMadhyamikShikshaAbhiyan (RMSA) in case of Government Secondary and Senior Secondary schools.

Mode of Implementation:-the ICT scheme under RMSA would be implemented through a BOOT model in the states under which provider would make availability of ICT infrastructure in the bond period (five years) on the basis of service levels settlement and guarantee of periodic payment subject to satisfied maintenance. The central assistance would be spread over the contract period. If in some cases where ICT arrangement is not implement easily, ICT infrastructure would be acquired on 'Outright Purchase Basis'. The state and union territories shall be free to contract with private agencies or associate it with other similar projects for implementation of ICT in secondary schools. The implementation of this programme will be multi-modal. The Ministry of Human Resource Development (MHRD) focusing on the access to private sector for build own operate modal if it is possible. The previous resort would be direct obtaining of hardware for the states. The National Council for Teacher Education (NCTE) must be connected with scheme in relation to provide the training to teacher about computer-based learning. The Rehabilitation Council of India also play a significant role in schemes about introduction of use of technology to educate the children with exceptional needs.

Financial parameters:-According to the Revised ICT scheme, the centre government of India will be provided 75% of financial support to State/UTs and 25% of funds will bespendedby the State Governments/UTs. In northern east states the financial share of centre government would be 90% and share of northern states would be only 10%, in Sikkim also the ratio financial assistance is 90:10. . The financial assistance of the government of India will be for the computers, projector, printer, modem, web camera, scanner, UPS, broadband antenna and video camera.

Establishment of Smart Schools:- Smart Schools concept has been implemented on 31 KendriyaVidyalayas and 33 JawaharNavodayaVidyalayas. Under RMSA tehere is a provision of establish 150 smart schools in different states of the country which serve as a role model for other schools and also share their resources with neighbourhood schools. Through smart schools the importance will not only given to the use of Information and Communication Technology but also will give to the development of skills and values which would be used in the future life of students. It is expected that in the smart schools, a section of 40 students of classes IX to XII would be totally computerized. So a school which will be having 160 computers (40 computer for each class IX to XII) may be entitle as smart schools under RMSA. It is predicted that the

target of smart schools cannot be achieve easily so it is planned to establish 40 computers to such identified schools. As per the availability of finance there is a provision of establish smart schools in each state government and union territory. Each smart school would be receive a grant of nearby 2.5 lakhs per year for effective functioning of smart schools. This limit of grant will be increase in future according to the needs of schools. An amount of Rs.2.5 lakhs shall be provided as recurring costs which comprises consumable, preservation, internet usage and supervision costs.

Teacher Interventions:-

Engagement:There is a need of a committed computer teacher for each secondary and senior secondary school and also a need of an additional faculty for each subject at the secondary or senior secondary level. In case the secondary/senior secondary schools are combined a PGT in Information Technology computer science may be allotted to teach the Information Technology related optional subjects in senior secondary school and also teach computer literacy to secondary classes (IX and X). If secondary schools are without senior secondary stage then an IT teacher will be appointed on the agreement basis. This system will be adopted in whole country for provide mover benefits to Indian students in the field of Information and Communication Technology.

Teachers' Training

Pre-Service training: Pre Service training will be essential for all of the teachers for effective use of ICT in teaching during the pre-service training courses meant for secondary school teachers.

In-service training

a) Induction training:- Firstly in the sanctioned school induction training in ICT must be provided to all computer teachers. The time period for in service training will be 10 days (8 hours per day) and Rs 400/- will spent per day on each teacher during in service training. It was estimated that around 10 lakh teachers will covered during the eleventh five year plan. The trainings programme would be held by the particular state

governments in appropriate batches at the SCERTs or other training institutions which were suitable for provide the training to teachers.

b) **Refresher Training**:- Under this scheme the Refresher trainings about the use of ICT in teaching would be provided to all of the sanctioned schools' teachers every year. The time period of Refresher training is suggested 5 days (8 hours per day) and Rs. 400/- will be spent per day on each teacher.

National Award for the Teachers using ICT for Innovations in Education:-

There is a provision of present national award to encourage the teachers and teacher educators for the use of ICT in education. Under the scheme it is suggested that national award will be given to those teachers who are using ICT to bring innovations in education. Every year the national award will be given to the computer teachers on the national education day (11th November). An amount of Rs. 1.40 crore will be kept secure for the instituting national award for the teachers using ICT to bring innovation in education.

Content Development:-Under the scheme it is determined that the E content will be developed for increase the comprehensive level of students. The task related to E content would be shared by Central Institute of Educational Technology (CIET), State Institutes of Educational Technology (SIET), Regional Institutes of Education (RIE) of the National Council for Educational Research & Training (NCERT). The partnership of private sector will also mention in the scheme for develop the E content. The development of e content is the major achievement of RMSA. A committee will be establish to conform and support the CIET for develop the full range of competences of Indian ICT sector. State educational departments should also evaluate the nature of E content which is developed to increase the learning capabilities of secondary school students. There would be the main focus on the development of E content and concentration on provide the E content to students. The centre government would be provided to CIET, SIET and RIEs and institutes for development of E content. There is a provision of an amount of Rs. 43.30 crore has been reserved for the Central Institute of Education Technology

during the eleventh five year plan for development of E content. An amount of Rs.36 crore has been preserved for development of Learning Objects (LOs) for students by outsourcing @ Rs.30,000 for 10 subjects for four classes (100 LOs per subject per year), while Rs.9.69 crore has been kept as assistance to States for amendment of the developed E content as per their requirements

Training of Teachers in Instructional Design:-twelve labs is expected to produce at least 240 IM MPs of one hour duration per year. In order to prepare a great number of IMMPs (estimated to be 8640 in all, to be converted to several languages), there will be a requirement for Instructional Designers, for which nominated teachers would be appropriately trained. Once trained, each teacher would be expected to prepare Instructional Designs for the development of IMMPs.

Release of Grant:-The grants by centre government will be released to the States/UTs/SIETs/CIET/RIEs and other institutes. The grants will be provided on the annual basis in two or more instalments. The first instalment will be 50% released after approvals. The States / SIETs / CIET / RIEs or other institutes has utilized 75% of the 1st instalment. The release of grants in the second and subsequent years will be made on an equal basis, providing that before release of the next instalment in a specific financial year (beginning with the next year), the utilization certificate and inspected statement of balance sheet in respect of grants released till the end of the preceding year is furnished.

Disbursement:-Amended Guidelines of ICT in Schools Scheme on 21.02.2011 13the grants forwarded by the centre government either by Demand Draft drawn or by the telegraphic to saving bank account opened in its name. The grants to state or union territories would be given through inter government advices.

Management, Monitoring and Evaluation:-
   a) According to the other provision of the RMSA for management purposes, particularly in view of the increasing coverage and mandate of the new scheme both at the National and

State levels. An amount of Rs 60 crores @ Rs 10,000 per school for the States and Rs 20 crores for the national level has been allocated for the purpose.

b) At the national level the provision will be used for the purpose of supervision, assessment, investigation, invention, conference, workshops, visits, office expenditures, and consultancy. At the State level the provision would be utilized for undertaking external impact assessment studies at State, District and school levels to make course corrections and for meeting expenses on the staff salary at State level and District level.

c) The States would have an internal mechanism for supervision the implementation of the programme through a supervising committee organised for the evaluation purpose. The main considerations for supervision would comprise timely installation of requisite hardware, including power supply, suitable software, engagement of teaching and administrative staff, teacher training and extent of use of e-content developed at the multimedia labs by the teachers. The State Govt. shall undertake a monitoring mapping at each level i.e. school, district, and State level.

d) A web portal will be developedfor effective monitoring and evaluation to enable real time monitoring of the implementation of the project at various levels. The Management at State/National level could view the status of implementation and also provide timely mid-course interventions. Successful innovations, experiences shall also be uploaded on the portal so that all the stakeholders can make use of the best practices or innovations being carried out by various States and Schools.

e) The Project Monitoring and evaluation group at the Ministry of Human Resource and Development would also function as a Monitoring Committee. The SIETs, CIET, RIEs and the State/UT Government submitting their progress report, every quarter.

1.4 ICT SCHEME IN PUNJAB

Punjab is a northwest state of India. Chandigarh is the capital of Punjab. The term Punjab made from two wards: 'punj' which means five and 'aab' which means water. So the word Punjab means the land of five rivers. In the whole India majority of Sikhs are lived in Punjab. More than 60% population of Punjab belongs to Sikh religion. The total area of Punjab is 50,362 square kilometres and total population of Punjab is 27,704,236. The average density of population is 550 per square kilometres. The state language of Punjab is Punjabi. It is the official

language of state. Punjabi is the ninth most spoken language in the world and fourth most spoken language in Asia. Each individual of Punjab is known as Punjabi. Main occupation of state is agriculture. Agriculture is the largest industry of Punjab because Punjab has fertile land. Wheat, Rice, Sugar cane are the main crops of Punjab. Kabaddi is known as the mother-sport of Punjab and its traditional dance is Gidda and Bhangra. Punjab is divided into three regions such as southwestern, central and eastern. The state of Punjab is divided into 22 districts which are Amritsar, Barnala, Bathinda, Faridkot, Fatehgarh Sahib, Fazilka, Firozpur, Gurdaspur, Hoshiarpur, Jalandhar, Kapurthala, Ludhiana, Mansa, Moga, Pathankot, Patiala, Rup Nagar (Ropar), Ajitgarh (Mohali), Sangrur, ShaheedBhagat Singh Nagar(NawanShahr), Mukatsar Sahib, Tarn Taran. These districts are further divided into Tehsils and Blocks. Ludhiana is the largest city of Punjab. The literacy rate in Punjab is 76.68% which is more than the literacy rate of India that is 74.04%. The state education board of Punjab is known as Punjab School Education Board (PSEB).

The government of Punjab take many initiatives to bring quality in education. To improve the status of elementary education the government of Punjab launched many centrally sponsored schemes such as Sarvashikshaabhiyan, mid-day meal etc. The government of Punjab provide full support to centre government for universalized the elementary education. To improve the access and quality of secondary education to all sections of society. Punjab government also launched the centrally sponsored scheme Rashtariya Madhiyamik Shiksha Abhiyan in the state. RMSA was launched in March 2009 in the Punjab state. RMSA scheme has been registered under societies registration Act 1960 in Punjab. In the total budget of this scheme at Punjab 75% spend by centre government and 25% spend by state government of India. Main objectives of this scheme is to increase the enrolment, retention and provide quality education at secondary level. Physical facilities provides under the scheme are additional classrooms, libraries, art and craft room, toilet blocks, drinking water, computer rooms, residential hostels facilities etc. Equity intervention of scheme are special focus in micro planning, ashram schools, preference to areas with concentration of SC/ST/Minority for opening of schools.

In Punjab the ICT scheme was launched in 2005 and at the year of 2010 it was revised under the RMSA. The main focus of ICT scheme is to improve the technical skills among students. ICT scheme was launched in government and aided secondary and senior secondary

schools of Punjab. The scheme has been implemented in 3696 secondary of Punjab. All of these schools provide computer aided education to students.

1.5 SIGNIFICANCE OF THE STUDY

Education is a most important asset for the present life of an individual because knowledge is the type of wealth that we will never loss. When we share it then it increases. Education act as a mean to improve the quality of life. Basic knowledge starts with elementary education. The government has been launched different schemes for Universalization of Elementary education like – SSA (Sarva Shiksha Abhiyan), RTE (Right to Education) Act, Mid-day-meal, Kasturba Gandhi Valika Vidhyalya etc. After the universalization of elementary education the next step towards the universalization of secondary education. Secondary education is that stage of education which prepares the individual to play his future roles with respect to occupational and as a contributing member of society. As a significance part to whole education system, secondary education plays a major role in the development of the man power in the various fields of the country. In order to make the individual capable to play his future role successfully equal importance must be given towards universalization of secondary education.

In order to meet the challenges of universalization of secondary education and to provide the quality education at secondary level the government of India launched a new centrally sponsored scheme which is known as Rashtriya Madhiyamik Shiksha Abhiyan (RMSA). RMSA is an effort in universalization of secondary education, improving quality of education and an opportunity for improving human capacities. The proper treatment of the concept of secondary education not only leads to the individual development but also remove the obstacles of national development of the country. Our education system is such that suitable teachers are not forthcoming to work in secondary education. So there is a need to make the teachers and students to aware about the implementation of Rashtriya Madhyamik Shiksha Abhiyan scheme.

To develop ICT skill among citizens, a new initiative known as Information and Communication Technology (ICT) scheme has been started under RMSA by the central government in Government and government aided senior secondary schools specially in educational backward blocks of the different states so that the students of these areas can get

quality educational facilities like ICT and enhance their abilities and aptitudes. So it is necessary to find out the ground realities and effectiveness of this program. Thus, the present is an attempt to evaluate the present status of ICT scheme in terms of the policy formation, its implementations, its effectiveness and problem faced. This study will be helpful for the policy makers to make reforms in the present policy to make this program more effective.

1.6 STATEMENT OF THE PROBLEM

In the present study the researcher intend to investigate the policy formation, its implementation and progress of ICT scheme under RMSA in the state. So the present study may be entitled as: "IMPLEMENTATION OF TCT SCHEME UNDER RASHTRIYA MADHYAMIK SHIKSHA ABHIYAN IN JALANDHAR DISTRICT OF PUNJAB: AN EVALUATIVE STUDY.

1.7 OBJECTIVES OF THE STUDY

1. To study the availability of physical facilities related to ICT in Senior Secondary Schools under the Scheme.
2. To study the availability and utility of Smart Schools under ICT scheme.
3. To find out the availability, professional growth and mode of appraisal of teachers appointed under ICT scheme.
4. To investigate the status of E-Content developed through different institutions in the schools under ICT scheme.
5. To find out the availability of finance and mode of implementation of ICT scheme in the schools.
6. To identify the problem faced in the implementation of ICT scheme by the institutions.
7. To suggest remedial measure to identified the problems for improvement and effective functioning of the ICT scheme.

1.8 RESEARCH QUESTION

1. Are the physical facilities provided in ICT scheme adequate?
2. Are the smart schools available with essential facilities and properly utilized to develop technical skills among students?
3. Are adequate number of teacher available and receives training for their professional growth
4. Is adequate E-content material developed through different institutions to provide quality education in secondary schools?
5. Is financial assistance adequate to run the programme properly in secondary schools?
6. Is the ICT schemes implement in a proper mode as lay down in the scheme in the secondary schools?
7. What are the problems faced by the Institutions in implementation of the programme?
8. What measure should be taken to make ICT programme effective?

1.9 OPERATIONAL TERM USED

RASHTRIYA MADHYAMIK SHIKSHA ABHIYAN: - Rashriya Madhyamik Shiksha Abhiyan is a centrally sponsored scheme for improving the access, quality and equity to secondary and higher secondary education. It is connected by the Ministry of Human Resource Development. It is the first large scale intervention for universalizing access and quality of secondary education covering the socio-economic and ecological variations as well as people from different educational and cultural backgrounds.

ICT: - ICT is any information and communication device such as radio, television, cellular, phones, computer, satellite system and hardware and software etc. To develop ICT skills among children the ICT scheme has been implement under Rashtriya Madhymik Shiksha Abhiyan.

EVALUATION: - Evaluation is giving the value judgment which is either measured or inferred. In present study, it refers to give judgment to a certain degree of achievement or value in

regarding the objectives of the study. So in present study it will give the judgment about implementation of ICT in terms of variable mentioned in the objectives of the study.

IMPLEMENTATION: -   It is a process of execute or practice of a plan, a method or any design for doing something. In the present study, implementation refer to carrying out or execution of Rashtriya Madhyamik Shiksha Abhiyan.

1.10 DELIMITATIONS OF THE STUDY

In the light of the time constraints and nature of the work the present study was delimited in the terms of following:

1. The study was delimited in Jalandhar district of Punjab.
2. The study was delimited to evaluate the implementation procedure and effectiveness of ICT under RMSA only.
3. The study was confined to the Government and Government aided secondary schools.

CHAPTER II

METHOD AND PROCEDURE

Methodology of the research plays a very important role in field of research. It describe the various steps to be adopted by a researcher in solving a research problem, such as a manner in which the problems are formulated, the definition of the terms, the choice of the subject for investigation, the validation of the data gathering tools, the collection, analysis and interpretation of the data and the process of inferences and generalization of the data. It means describing method and procedure of conducting research. In methodology, a part of research describes methods and procedure, which an investigator will adopt for conducting research. It refers to a logical plan of solving a research problem. It may be understood as a science of studying how research is done scientifically. Research design is the blue print of "what is to be done?" and "how is to be done?" It is the path, which is to be followed by the researcher to reach the target. In a simple language, a research design is stated as a plan of action, a plan of collecting and analyzing data in an efficient and relative manner. To carry out research work, first, the researcher is supposed to draw out the methodology to be used. The ultimate success of a researcher's project greatly depends upon the design of the study. It avoids aimless wondering, saves time and economize the efforts of researcher.

The present chapter is devoted to method and procedure of study, which cover sample selection; design of the study and description of the tools required for the collection of the data and statistical technique to be used to analyse the data. The selection of techniques and device of investigation is determined by the nature of problem. The selection of adequate methods, tools, and techniques are very difficult problems and must be handled with every caution, care, and consideration in respect of time, cost, and procedure. Procedure is a set of prescribed actions or events that must be enacted or take place to achieve certain results. A method may not be tried or tested before it can be just an idea that has been put to test. Thus the result of method may or may not work. Procedure on the other hand is usually formed only after being tried or tested. Procedure can be quite complicated and involves many steps of doing things.

2.1 RESEARCH METHOD

Research methods are of utmost importance in a research process. They describe the various steps of the plan of attack to be adopted in solving a research problem, such as the manner in which the problems are formulated, the definition of term, the choice of subjects for investigation, the validation of data-gathering tools, the collection of data, analysis and interpretation of data and the process of inferences and generalizations. The selection of a method and the specific design within that method appropriate in investigating a research problem will depend upon the kind of data that the problem entails. Research method is a way to systemic investigate research problem. It gives various steps in to conducting the research in a systematic and logical way. It is essential to define the problem, state objective and hypothesis or research question carefully.

Keeping in the view of the research objectives and research questions of present study, the investigator found it to go through descriptive survey method. The word "survey" has been derived from the word "sur" and "veir" which means over and "see" respectively. It describes and interprets what exist at present although the major purpose of descriptive survey method in research is to tell "what is"? Descriptive research studies are designed to obtain pertinent and precise information concerning from the facts and discovered. It helps to explain educational phenomena in terms of the conditions or relationships that exists, opinions that are held by the students, teachers, parents and experts and processes that are developing. At times, descriptive survey is the only means through which opinions, attitude, suggestions for improvement of educational practices and instructions, and other data can be obtained. Descriptive research, also known as statistical research, describes data and characteristics about the population or phenomenon being studied. The present study was conducted to find out the **"Creative Ability among Secondary School Students In relation to their Scientific Attitude and Parental Encouragement"**Descriptive studies serve as direct source of valuable knowledge concerning human behavior. It is helpful for us in planning various aspects of school i.e. school plans, school maintenance, curriculum, teaching methods, learning objectives and the like. Thus the survey method collects three type of information:-1. Of what 2. Of what we want 3. Of what we get there.

22. SAMPLE –TECHNIQUE AND DESIGN

Sampling is the process of selecting units from a selected population. All items in the field of inquiry constitute a universe or population. The selected respondents from the population are technically called a sample. Sampling is a process of obtaining information about entire population by examining only a part of it. Sample should be true representative of population characteristics without any biasness, so that it may result in valid and reliable conclusions. Some populations are so large that their study would be expensive in terms of time, money, effort, and man-power. Sampling is that process by which a relatively small number of individuals or measures of individual, objects, or events is selected and analyzed in order to find out something about the entire population which it was selected. It helps to reduce expenditure, save time and energy, permit measurement of greater scope or produce greater precision and accuracy. Sampling procedure provide generalization on the basis of a relatively small proportion of the population. The representative proportion of the population is called a 'sample'

To obtain a representative sample, the researcher selects each unit in a specified way under controlled conditions. In the present study by applying random sampling techniques of getting appropriate sample, a sample of 60 government and government aided senior secondary schools selected from developmental blocks i.e. East-I, East-II, East-III, East-IV and Noormahal of Jalandhar district of Punjab. The list of sample schools is shown in table 2.1.

List of Sample Schools

Table-2.1

S.No	Name of Schools	Nature of Schools
	East-I	
1	Govt. Sr. Sec School Kotli Than Singh	Govt.
2	Govt. High School Mohala Santokhpur	Govt.
3	Govt. High School Sheikhe	Govt.

4	Govt. High School Kishanpura	Govt.
5	Govt. Sr. Sec. School Lamba Pind	Govt.
6	Govt. Sr Sec School Ucha	Govt.
7	Govt. Sr Sec School Issharval	Govt.
8	Govt. Sr. Sec. School Dhadda	Govt.
9	Shri Guru Ravidas Sr. Sec. School Kishanpura	Aided
	East-II	
10	Govt. High School Puranpur	Govt.
11	Govt. High School Dakoha	Govt.
12	Govt. High School Nangal Shama	Govt.
13	Govt. High School Chuggiti	Govt.
14	Govt. High School Patara	Govt.
15	Govt. High School Dhanowali	Govt.
16	Govt. Sr Sec School Talhan	Govt.
17	Govt.Girls Sr Sec. School Patara	Govt.
18	Govt. High School Bhojowal	Govt.
19	Govt. Girls High School Gandhi Nagar	Govt.
20	Govt. Sr. Sec. School Gandhi Camp	Govt.
21	Govt. Sr. Sec. School Hazara	Govt.
22	Govt. Sr Sec School Ladhewali	Govt.

	East-III	
23	Govt. High Sec School Tajpur	Govt.
24	Govt. Sr. Sec. School Wadala	Govt.
25	Govt. Sr. Sec. School Partappura	Govt.
26	Govt. Sr. Sec School Lambra	Govt.
27	Govt. Girls Sr. Sec. School Modal Town	Govt.
28	Govt. Girls Sr. Sec. School Modal House	Govt.
29	Govt. Girls Sr. Sec. School Abadpura	Govt.
	East-IV	
30	Govt. High School Rainak Bazar	Govt.
31	Govt. High School Diwali	Govt.
32	Govt. High School Sansarpur	Govt.
33	Govt. Girls Sr. Sec. School Ladowali Road	Govt.
34	Govt. Sr. Sec. School P.A.P Campus	Govt.
35	Govt. model Sr. Sec. School Ladowali	Govt.
36	Govt. Boys Sr. Sec. School Jamsher Khas	Govt.
37	Govt. Girls Sr. Sec. School Jamsher Khas	Govt.
38	Govt. Model co-edu Sr. Sec. School	Govt.
39	Govt. Girls Sr. Sec. School Nehru Garden	Govt.
40	K.L. Arya Girls High School Jal. Cantt	Aided

41	N.D Victor Sr. Sec. School Cantt	Aided
	West	
42	Govt. High School Kot Sadique	Govt.
43	Govt. High School Lallian Kalan	Govt.
44	Govt. High School Nijjaran	Govt.
45	Govt. High School Panchranga	Govt.
46	Govt. High School Kalyanpur	Govt.
47	Govt. High School Maqsudan	Govt.
48	Govt. Girls Sr Sec School Bhargo Nagar	Govt.
49	Govt. Sr. Sec. School Randawa Masanda	Govt.
50	Govt. Sr. Sec. School Adarsh Nagar	Govt.
51	Govt. Girls Sr. Sec. School Khusropur	Govt.
52	Govt. Sr. Sec School Bhargo Camp	Govt.
53	Govt. Girls Sec. School Laroya	Govt.
54	Govt. Girls Sr. Sec. School Karari	Govt.
	Nurmahal	
55	Govt. High School Uppal Khalsa Nurmahal	Govt.
56	Govt. High School Bhandal Himmat	Govt.
57	Govt. High School Sidhwan	Govt.
58	Govt. Sr. Sec. School Cheema Kalan	Govt.

| 59 | Govt. Sr. Sec. School Nurmahal | Govt. |
| 60 | Govt. Sr. Sec. School Talwan | Govt. |

Source: Office of the Deputy Director of Secondary Education, Jalandhar, Punjab.

2.3 TOOL OF DATA COLLECTION

A researcher required many data gathering tools which may vary in their complexity, design, administration and interpretation. Each tool is appropriate for the collection of data. The researcher has to select appropriate from the available tools, which provides absolute data. In some situations, it may find that the existing research tools do not suit for the purpose and so he may have to modify or construct his own tool. The selection of appropriate tool for particular study depends upon the various considerations such as the objectives of the study, the amount of time, at the investigator's disposal.

The present study is qualitative in nature and no standardized data collection tools were available in order to collect data. By keeping in mind the purpose of the present study and unavailability of standardized tool, the investigator used self-constructed and standardized tool for the collection of data from the selected sample of senior secondary schools. The tool has following components:-

A. Physical Infrastructure.
B. Availability and Utility of Smart School.
C. Professional Growth and Mode of Appraisal of Teachers.
D. Development of E-Content.
E. Availability of Finance.
F. Problems faced in the implementation of ICT scheme.
G. Remedial Measures to overcome the problems for improving and effective functioning of ICT scheme.

2.4 VALIDATION OF THE QUESTIONNAIRE

The validity of the questionnaire was done through content validity. For that purpose the preliminary draft of the questionnaire was shown to the teachers, language and subject experts. The objectives of the development of the questionnaire were explained to them and their views were taken and necessary modifications were made. When the questionnaire got completed it was discussed with the teachers at Lovely Professional University. Their views were noted down and necessary improvements were made. Lastly the final draft of the questionnaire was shown to the heads of the senior secondary where the scheme is implemented and again necessary amendments were done. The heads agreed that content matched for the purpose of validation of the questionnaire. Table 2.2 shows the number of items included in the final draft of the questionnaire.

Numbers of questions in the final draft of the Questionnaire

Table-2.2

Total no. of questions in the preliminary Draft	Modifications	Rejected	Total Questions in Final Draft
72	15	15	57

The copy of the questionnaire is annexed as Annexure-I

2.5 PROCEDURE FOR DATA COLLECTION

The data for present study was collected personally by the investigator. Before the collection of data from selected 60 governments and government aided senior secondary schools of Jalandhar district, the permission from the Deputy Director of Secondary Education Jalandhar was taken to visit these senior secondary schools to collect information and to observe the present status of ICT scheme under Rashtriya Madhyamik Shiksha Abhiyan.

Before distributing the questionnaire to the head of the senior secondary school, Before distributing the questionnaire to the heads of samples schools, the support was maintained with

help of conversation with them. they were assured that their responses would be kept secret and confidential and will be used only for research purpose. And finally they were taken into confidence that the responses would not be affecting them adversely in any way. When the respondents were prepared, the questionnaire was given to them. It was also assured that no item should remain unresponded. The heads were thanked for the co operation extended by them. The same procedure was followed in each School.

2.6 STATISTICAL TECHNIQUE USED

Statistical technique is a collection of methods which is used to process large amount of report, overall trends and data. It refers to a collection of methodologies used in measurement of data. It is normally used in ascertaining relative performance that involves assumptions about functional relationships. In research studies, different statistical techniques were used by the investigator, not only to understand but compare data and to test hypothesis also.

In present study the data gathered with the help of questionnaire was tabulated by counting frequencies. The present study deals with qualitative data and in order to give it a clear meaning percentage for each item was calculated.

CHAPTER-III

ANALYSIS AND INTERPRETATION

In the proceeding chapter method and procedure of study which cover sample design of the study development and description of the tool and the statistical techniques used for the analysis of the data were discussed. The data as such have no meaning unless analysed and interpreted by some dependable techniques. Once the research data have been collected and the analysis is made the researches can proceed to the stage of interpreting the results. The process of interpretation is essentially starting what the result show. The interpretation of data and the analyses of result are considered to be most important part of a research work as it verifies the hypotheses or it gives the answers of research questions and eventually leads to the final conclusion of the research problem. It calls for careful cum logical and critical examination of the results obtained of analysis, keeping in view the limitations of the sample chosen, the tools selected and used in the study.

Data analysis is the process of systematically arranging the data that is accumulated to enable the researcher to come up with the findings. Analysis of the data means studying the tabulated material in order to determine inherent facts or meanings. It involves in breaking up complex factors into the simple one and putting them into new arrangement. Data interpretation refers to developing idea about the findings of the study and relating them to the literature and broader concepts. Analysis involves working with data, organizing them, breaking them into small manageable units, coding them, synthesizing them and searching for pattern. Thus for any research the analytical task of coming up with findings and interpreting is indispensable.

The focus of the present study was to evaluate the implementation and effectiveness of Information and Communication Technology (ICT) scheme under Rashtriya Madhyamik Shiksha Abhiyan (RMSA) in government and government aided secondary and senior secondary schools in the Jalandhar district of Punjab. The data was collected on a questionnaire developed by the researcher. The data was compiled in the form of frequencies and the frequencies were converted into percentage for the item wise analysis and interpretation of data. The questionnaire included items i.e. Physical Infrastructure, Availability and Utility of Smart Schools, Professional Growth and Mode of Appraisal of Teachers, Development of E-Content,

Availability of Finance, Problem faced and also suggestions to improve the implemented scheme. The results are discussed as under:-

3.1 PHYSICAL INFRASTRUCTURE

Responses of the head of secondary and senior secondary Schools related to physical infrastructure are given in table 3.1

Responses of the h

Head of Schools with Regards to Physical Infrastructure

Table-3.1

S.NO.	STATEMENTS	YES	NO
1.	Schools provide computer aided education.	100%	------
2.	Schools have computer/ICT lab to provide computer education.	100%	------
3.	Schools have proper furniture for ICT lab.	100%	------
4.	ICT lab have these devices:-		
	a) 10 PCS	92%	8%
	b) Projector	24%	76%
	c) Printer	100%	------
	d) Web camera	2%	98%
	e) Modem	100%	------
	f) Scanner	40%	60%
	g) Broadband antenna	62%	38%
	h) UPS	96%	4%
	i) Video camera	------	100%
5.	Schools have customized keyboards for use in the regional language.	54%	46%
6.	Schools have Operating system & Application software.	100%	------
7.	Schools have educational software and CD ROMs:-	100%	------
8.	Schools have internet broadband connection in computer lab.	100%	------

9.	Schools have proper electrification.	100%	------
10.	Schools have generator/solar package.	72%	28%
11.	Schools have Wi-Fi network.	10%	90%
12.	Schools have sufficient ICT facilities.	96%	4%
13.	Government provides additional ICT facilities for schools.	38%	62%

Table 3.1 shows that all (100%) schools are providing computer aided education to the students and have ICT laboratory with adequate furniture. Table also reveals that almost all the schools lab 10 PCS with UPS, printer and modem in computer/ ICT laboratory. Further   only 24% of the sample schools have projector whereas only 2% schools have web camera, 40% schools have scanner, 62% schools have broadband antenna and none of the schools have the facility of video camera. Table also indicates that only 54% of the schools have customized keyboard for use in regional language. All the 60, secondary and senior secondary schools have operating system & application software and educational software such as MS- Office, PC-Logo etc. and all ICT labs were connected with internet broadband connection. It is clear from the table that all schools have proper electrification in ICT laboratory whereas 72% of the schools have also the facility of generator to run the teaching learning process without interruption. Further almost all the schools have sufficient ICT facilities and 38% of the sample schools are receiving additional ICT facilities from government like EDUSAT lab, LCD/TV etc.

3.2 AVAILABILITY AND UTILITY OF SMART SCHOOL

In the ICT scheme under Rashtriya Madhymik Shiksha Abhiyan there is a provision of five smart schools in every state of India but it has not been established yet in Jalandhar district of Punjab till date now. So the questions from 14 to 22 are not mention here.

3.3 PROFESSIONAL GROWTH AND MODE OF APPRAISAL OF TEACHERS

Responses of the head of secondary and senior secondary schools related to ICT scheme under RMSA regarding the Professional Growth and Mode of Appraisal of Teachers are given in table 3.3

Responses of the Head of Schools with Regards to Professional Growth and Mode of Appraisal of Teachers

Table-3.3

23.	Schools have adequate number of ICT/Computer teachers:-	96%	4%
	Mode of appointment:-		
	a) Permanent computer teachers	94%	6%
	b) Contract based computer teachers	20%	80%
	c) Both permanent and contract based teachers	------	------
24.	Teachers have essential qualification and technical skill to teach computer literacy.	100%	------
25.	Government provide pre-service training to the computer teachers. Areas of training.	42%	58%
	a) Computer overview	42%	58%
	b) Operating system	38%	62%
	c) Working with multimedia and making movies and recording sounds	32%	68%
	d) Networking/internet/e-mail	40%	60%
	e) Using word processor	40%	60%
	f) Using spreadsheet	38%	62%
	g) Subject specific TL tools, e.g. labs, animation, museum etc.	34%	66%
	h) Database creation and management	40%	60%
	i) Classroom learning and teaching tools(white boards, collaborative cooperative tools)	40%	60%

26.	Content of pre-service training sufficient for professional development.	42%	58%
27.	Time period of pre-service training as per norms. Time period of training is………………………………….	24%	76%
28.	Time of pre-service training is sufficient.	26%	74%
29.	Government provide in-service training to computer teachers. Areas of training:-	90%	10%
	a) Introduction part	90%	10%
	b) Computer overview	74%	26%
	c) Operating system	70%	70%
	d) Productivity suits & integration of presentation software in classroom learning	68%	32%
	e) Document management using word processor	72%	28%
	f) Spreadsheet creation using spreadsheet	72%	28%
	g) Internet/e-mail	74%	26%
	h) Classroom learning and teaching tools	86%	14%
	i) Assessment	76%	24%
	j) Feedback	74%	26%
30.	Content of in-service training sufficient for professional development.	82%	18%
31.	Time period of in-service training is as per norms.	84%	16%
32.	Time period of in service training is sufficient for professional development.	86%	14%
33.	Government provide refresher training to in-service computer teachers. Areas of refresher training	46%	54%
	a) Working with multimedia.	30%	70%
	b) Making and editing movies.	26%	74%
	c) Working with pictures.	28%	72%
	d) Internet and e communication.	30%	70%
	e) Overview of management information system.	26%	74%
	f) Legal and ethical aspects of web based information.	26%	74%
	g) Computer technology and security.	28%	72%

	h) Search optimization (search engines).	30%	70%
	i) Classroom teaching-learning tools.	40%	60%
	j) Assessment and evaluation.	42%	58%
34.	Knowledge of refresher training sufficient for professional development.	42%	58%
35.	The time period of refresher training as per norms.	38%	62%
36.	The time period of refresher training is sufficient.	42%	58%
37.	Teachers receive any TA/DA for attend professional training programs. Amount of TA/DA……………………………………..	86%	14%
38.	Teachers use ICT to bring innovations in education.	92%	8%
39.	Teachers receive any national award using ICT for innovations in education	------	100%

Table 3.3 shows that almost all (96%) the secondary and senior secondary schools have permanent computer teachers with essential qualification and teaching skills to teach computer literacy as lay down in ICT scheme policy. In which 20% of schools have permanent and contractual computer teachers. Table reveals that 42% computer teacher received pre-service computer training in computer overview, operating system, working with multimedia and making movies and recording sounds, networking/internet/e-mail, using word processor, using spreadsheet, subject specific TL tools, database creation & management, classroom learning and teaching tools and rest 58% of the schools do not received pre service training. Table also indicates that 42% of sample schools were satisfied with the content on which professional training provided to teachers for their professional growth.

Further, only 24% computer teachers were satisfied with the training time period and rest 76% computers teachers were not satisfied with the content of training. Table also shows that 90% of computer teachers are getting in-service computer training in different skills out of which 90% receive training in introduction part, 74% in computer overview, 70% in operating system, 68% in productivity suits & integration of presentation software in classroom learning, 72% in document management using word processor, 72% in spreadsheet creation using word

processor,74% in internet/e-mail, 76% in assessment, 74% in feedback and 86% teachers got training in classroom learning and teaching tools. Table indicates that more than 80% computer teachers were satisfied with the content and time period that is 5 days thrice in a year for their professional development.

Further 46% of computer teachers agreed that they receives refresher training from government in different areas like working with multimedia, making and editing movies, working with pictures, internet and communication, overview of management information system, legal and ethical aspects of web based information, computer technology and security, search optimization, classroom teaching-learning tools and assessment and evaluation but the knowledge given in refresher training was sufficient for professional development. It is also clear from the table that only 40% teachers agreed that they receive refresher training as per the norms that is 2 days twice in a year but only 42% teachers were satisfied with the time period of refresher training. Further 86% computer teachers receives travelling/daily allowance to attend professional training programs as lay down the government policy. Table shows that almost all teachers used ICT to bring innovation in education but not a single computer teacher receives any national award to make effective use of ICT for bring innovation in education.

3.4 DEVELOPMENT OF E-CONTENT

Responses of the head of secondary and senior secondary schools related to ICT scheme under RMSA regarding the Development of E-Content are given in table 3.4

Responses of Head of Schools with Regards to Development of E-Content

Table-3.4

40.	Schools provide e content to students.	92%	8%
41.	ICT teachers develop the interactive multimedia packages.	62%	38%
42.	Schools use e content for various subjects:-	88%	12%
43.	E content helpful to enhance the comprehensive level of students.	90%	10%
44.	ICT teachers develop e content.	38%	62%
45.	Schools receive financial aid for the development of e content.	------	100%

46.	Satisfied with aids which receive for the development of e content.	------	100%
47.	Schools provide e content in regional language to students. Language in which e content is to be provided:-	92%	8%
48.	Computer teachers get training in instructional design.	------	100%

Table 3.4 shows that almost all (92%) schools provides e content to students in various subjects like Maths, Science, S.ST, English etc. and also agreed that e content is helpful to enhance the comprehensive level of students. Further 62% teachers develop the interactive multimedia packages to enhance communication and interest in teaching and learning among students. Table also indicates that only 38% ICT teachers develop e content. It also clear from the table that none of the school receive financial aid for the development of e content for students in different subjects and none of the computer teacher receives training in instructional design. More than 90% computer teachers viewed that they develop and provide e content to students in regional language (Punjabi) national language (Hindi) and in English. Only 38% computer teacher develop e content by their self for students and also receives CDs of e content from the department of secondary education almost in all schools.

3.5 AVAILABILITY OF FINANCE

Responses of the head of secondary and senior secondary schools related to ICT scheme under RMSA regarding the Availability of Finance are given in table 3.5

Responses of Head of Schools with Regards to Availability of Finance

Table-3.5

49.	Schools receive financial assistance from government for implementing ICT scheme in schools. Amount of financial assistance…………………………………………………….	98%	2%
50.	Government provide funds at adequate time.	80%	20%
51.	Funds sufficient for implementation of ICT scheme in schools.	52%	48%

52.	Government provide extra financial assistance for:-		
	a) Computer stationary	98%	2%
	b) Electricity charges	44%	56%
	c) Diesel/kerosene for generator	22%	78%
	d) Telephone charges	54%	46%
	e) Internet broadband charges	98%	2%
	f) Teachers' salary	98%	2%
	g) Refresher training to teachers	58%	42%
	h) Management, monitoring and evaluation.	60%	40%
53.	Schools properly utilize the funds.	100%	------
54.	Schools maintain the records of utilization the funds.	100%	------
55.	Schools receive funds from other sources for providing the ICT facilities to students.	------	100%

Table 3.5 shows that 98% (almost all) schools agreed that they receive financial assistance from government i.e. approximately 17000/- per year to implement the ICT scheme. Further 80% of sample schools viewed that they receive funds within time and rest does not receive. Table also reveals that 52% of schools were satisfied with the funds received for the implementation of the ICT scheme. Table also shows 100% sample schools receive extra financial assistance for computer stationary, 44% schools receive funds for electricity charges and a few schools (22%) receive assistance for diesel for generator, 100% for internet broadband charges, 54% schools receive financial assistance for telephone charges, 58% for refresher training and management, 60% for monitoring and evaluation and 98% for teachers salary. Table also indicates that all the schools make proper utilize the funds and all schools maintain records of utilization of funds in different areas. But none of the school receive fund from any other sources.

3.6 PROBLEMS AND SUGGESIONS OF THE HEAD OF THE SCHOOLS UNDER STUDY

3.6.1 Problems Faced in Implementing the ICT Scheme by Schools

All the schools were faced some common problems in implementing the ICT scheme. The major problem faced by all sample schools was lack of adequate funds. Schools heads respond that government did not provide financial aid within proper time and the aid issued to them was not adequate. Almost all of the computer teachers had faced the same problem that all the other school teachers had not any basic knowledge about ICT so others subject teachers depended upon computer teachers to provide different subjects related e-content to students. The ICT lab had not space for more than 30 students at a time. There were not sufficient computers as according to the students' strength. Internet and hardware devices were not working properly. Teachers used to do a lot of office work like receiving and sending mails so teaching work and task of implementing ICT scheme is suffering. In government aided schools ICT scheme did not implement properly. Even computer teachers of sample schools were not facilitated with any kind of pre-service and in-service teacher training programmes by government. In aided schools there was shortage of computer teachers and ICT facilities and proper physical facilities were not made available in the schools as schools were covered under the scheme. There were only temporary computer teachers in government aided schools. Government did not provide funds to aided school for implement the scheme properly.

3.6.2 Suggestions by the Schools for the effective implementation of ICT Scheme.

To resolve the problems, it was suggested that there should be adequate numbers of computers, so that ICT enabled education cater to the needs of students. There should be more space in computer lab for students at a time with adequate physical facilities. Government should provide sufficient funds to meet the needs of schools and funds well in time to implement the scheme effectively in the schools. It was also suggested that basic ICT training for all other subject teachers must be provided, so that they can also develop e-content in their own subject and learn to make use of computer to do other work also. It was also viewed that time to time all the educational software should be updated and internet service improved to avoided the problem

of its use during teaching. Majority of teachers state that the in-service training programs should be held in summer vocations and number of training period must be increased. |Government aided school heads also suggest that special attention must be given in these schools in relation to the implementation of ICT scheme and all facilities should be made available. Government should provide financial aids to these government aided school also with in time. There should be equal opportunities to government aided computers' teachers for pre-service and in-service training.

CHAPTER-IV

CONCLUSIONS, RECOMMENDATIONS AND SUGGESTIONS

Previous chapter deals with the analysis and interpretation of data collected on a questionnaire by the investigator. In the light of interpretation of the data the investigator has to use all care caution in formulating conclusions and generalizations. Conclusions are essential as investigations. It is very essential in every study. It provides a finishing touch and review of whole critical work. The chapter of conclusions, recommendations and suggestions acts as a soul of the study. Results reflect the investigator's view about the study. The data analyzed may be adequate, valid and reliable to an extent but it does not serve any worthwhile purpose unless it is carefully interpreted and rationally concluded. In the present study, in the light of interpretation of data the investigator has to use all the cautions in forming conclusions and generalizations. The final step of demands critical and logical thinking in summarizing the findings and conclusions of the study.

In the present study the investigator has tried to evaluate the ICT scheme under RMSA. So in the present chapter investigator draw out conclusions, recommendations and also provide suggestions for further research.

4.1 CONCLUSIONS

On the basis of the analysis and interpretation of data, following conclusions are drawn for the evaluation of the ICT scheme under RMSA.

1. The conclusions for the availability of physical infrastructure in government and aided secondary and senior secondary schools are given below:
   a) All the secondary and senior secondary schools under study are providing computer aided education to students.
   b) All the schools have computer/ICT lab with proper furniture.
   c) Almost all the schools have 10pcs, printer, modem and UPS and only 24% of sample schools have projector, a few schools have web camera, none of the school have video camera.

d) Almost half of the sample schools have customized keyboard for use in regional language.

e) All the Schools have Operating system & Application software and educational software & CD ROMs. All of the sample schools' ICT labs are connected with internet broadband connection.

f) All of the secondary and senior secondary schools have sufficient electrification and majority of schools (72%) have generator in the school.

2. The conclusions for the availability and utility of smart classrooms are given below:

The smart school has not been established in Jalandhar till date now.

3. The conclusions for the professional growth and mode of appraisal of ICT teachers are given below:

a) Majority of schools have permanent computer teachers, out of which 20% schools have both permanent contract based computer teachers with essential qualification and technical skill to teach computer literacy.

b) Only 42% computer teachers have received pre- service training from government, in which only 20% were satisfied with content of pre-service training for their professional development

c) Almost all computer teachers were receiving in-service training. Majority of teachers were agreed with the content and time period of in-service training for professional development and time period of in-service training was also as per government norms.

d) Only 46% computer teachers received refresher training and satisfied with the content and time period of training and also was as per norms as mentioned in the policy.

e) Majority of teachers (86%) receive TA/DA to attend the professional training programs as per norms of ICT scheme policy.

f) None of the sample school computer teacher receives any national award using ICT for innovations in education.

4. The conclusions for the development of e content by secondary and senior secondary schools are given below:

a) Majority of schools (92%) were providing e- content to students in their regional language.

b) Only 62% computer/ICT teachers were developing interactive multimedia packages such as power point presentations, practice work etc.

c) Nearby 90% schools use e content for various subjects such as maths, science, social science, English and e-content is helpful to enhance the comprehensive level of the students but only 38% of sample schools computer teachers were developing e-content for the students.

d) None of the sample school receives financial aid for the development of e content and training in instructional design.

5. The conclusions for the availability of finance in schools under the scheme are given below:

a) Almost all of the schools receive financial assistance from government for implementing the ICT scheme in the schools. They receive almost 17000/- per year from the government.

b) Majority of schools receives the funds at proper time and almost half of sample schools believed that the funds are sufficient for implementing the scheme in school.

c) 98% schools receive extra funds for computer stationary, internet broadband charges and Teachers' salary. Only few schools receive extra financial assistance for Diesel/kerosene for generator and for electricity charges.

d) Average of the schools receives financial assistance for telephone charges, refresher training to teachers and for management, monitoring and evaluation.

e) All of the sample schools properly utilize the funds and maintain their records.

f) All the school does not have any other source for receive the funds for providing ICT facilities to the students.

6. Problems and suggestions of the heads of schools under study are as following:

a) Problems faced in secondary and senior secondary schools

    i. Problem of adequate space for students in ICT lab at one time.

    ii. Dependency of other subject teachers on computer teachers for provides other subjects related e content to the students.

    iii. Hardware devices are not working efficiently.

    iv. Numbers of personal computers were less than the requirement.

    v. Internet connection not works efficiently.

    vi. Burdon of office work on the computer faculties of school.

b) Suggestions to make the ICT scheme effective

    i.   Funds should be sufficient and provided within time for the implementation the scheme properly.

    ii.   The government should provide basic ICT skills to other subject teachers.

    iii.   Time to time hardware devices should be upgraded.

    iv.   The ICT lab should be large in size so that at least 40 students sit inside the lab at a time.

    v.   The in service training session for computer teachers must be held in summer vocations.

    vi.   PCs windows should be updated time to time.

    vii.   Complaints related to hardware and software devices should be resolved within 2 to 3 days.

    viii.   Knowledge of hardware must be given in the training programs.

    ix.   There should be six periods of computer education for each class in a week.

4.2 LIMITATIONS

Every study has some constraints and limitations. This is especially in the case of research studies because at the time of data collection any individual can try to conceal his/her negative aspects. Limitations of the study reduce the reliability and validity of the study. The investigator tried his/her best to achieve the maximum reliable result but there might be some constrains and limitations in conducting the study. For the present study, the researcher considered the following limitations:-

a) The time period for the data collection from 60 secondary schools was not sufficient.

b) Some head of schools feared from the higher authorities and hesitated to give the sincere response.

c) The actual positions in some secondary and senior secondary schools especially government aided schools were different from the responses given by the in charges because the post of head lying vacant.

d) No standardized tool was available for the present study.

4.3 RECOMMENDATIONS

This study has outlined following recommendations:-

a) All the secondary schools should have projector, web camera, video camera and Wi-Fi connection in their computer lab.

b) Government should provide additional ICT facilities such as EDUSAT lab, LCD/TV etc. to all of the secondary schools for enrich their ICT lab.

c) Hardware devices must be updated. Time to time the latest versions of devices like mouse, scanner, keyboards etc. must be provided.

d) The size of ICT lab should be large and the setting capacity of students in ICT lab must be more than 30 students at a time.

e) Government should provide pre-service training to all computer teachers to develop essential skills for their professional development.

f) The time period for professional training programs should be more than 2 days and the in-service training programs should be held on summer vocations so that the maximum computer teachers can attend the training programs.

g) Content of pre-service training and refresher training should be according to the need of course and helpful for computer teachers for their professional growth.

h) The government should provide extra incentives to motivate and encourage ICT teachers to do extra efforts to bring innovations in education with the help of ICT.

i) Government should make provisions in the scheme for the training of other subject teachers of basic ICT skills so that the other subject teachers also develop e-content to students independently.

j) Government should provide extra financial aids for the development of e content to enhance the comprehensive level of students.

k) Government should provide sufficient funds to the schools ti implement the scheme effectively.

4.4 SUGGESTIONS

Research is never ending process. Every investigator after completing the piece of research inevitably becomes aware of areas in which further research is needed and naturally feels motivated to indicates area, which may be taken up for the research by other investigator. The researcher by the virtue of the experience in the field of study offers the following suggestions for further research that could be under taken by prospective researches.

a) The present study was restricted to the Jalandhar district of Punjab only, so similar study can also be conducted in other states of India.

b) A similar study can be conducted on large scale of other state, covering other district of particular state.

c) A comparative study of government and government aided secondary schools can be conducted.

d) A comparative study of different districts of Punjab where Rashtriya Madhymik Shiksha Abhiyan Scheme is being implemented can be conducted.

e) A study can be conducted on the effectiveness of ICT scheme in Punjab.

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IMPLEMENTATION OF TCT SCHEME UNDER RASHTRIYA MADHYAMIK SHIKSHA ABHIYAN IN JALANDHAR DISTRICT OF PUNJAB: AN EVALUATIVE STUDY

QUESTIONNAIRE

General information:

   1. Name of School   --------------------------------------

   2. School Type   Government/ Govt. Aided

   2.Area of School   Urban/Rural

   3. Name of Block   --------------------------------------

   4. Year of implementation of Scheme   --------------------------------------

General Instructions:

1. This questionnaire contains 57 items to get the information regarding the implementation of ICT Scheme under Rashtriya Madhyamik Shiksha Abhiyan in Punjab.So, you are requested to read all the statements carefully and respond openly, keeping in mind the functioning of your institution and the provisions made under ICT Scheme.
2. Put a tick mark (√) for best alternative in your views in appropriate box out of alternative given in the questionnaire.
3. If you feel any difficulty in understanding any question you can ask the researcher without any hesitation.
4. There is no time limit, but return the questionnaire to researcher well in time.

A. PHYSICAL INFRASTRUCTURE

Sr.No	Statements	Yes	No
1.	Does your school provide computer aided education?		
2.	Does your school have computer/ICT lab to provide computer education?		
3.	Does your school have proper furniture for ICT lab?		
4.	Does your ICT lab have these devices :-		
	a) 10 PCs (or server with terminals)		
	b) Projector		
	c) Printer		

	d) Web camera		
	e) Modem		
	f) Scanner		
	g) Broadband antenna		
	h) UPS		
	i) Video camera		
5.	Does your school have customized keyboards for use in the regional language?		
6.	Does your school have Operating system & Application software?		
7.	Does your school have educational software and CD ROMs? If yes, then write the name of educational software:- a) ……………………………………………………… b) ……………………………………………………..... c) ………………………………………………………		
8.	Does your school have internet broadband connection in your computer lab?		
9.	Does your school have proper electrification?		
10.	Does your school have a generator/solar package?		
11.	Does your school have Wi-Fi network?		
12.	Does your school have sufficient ICT facilities?		
13.	Dose government provide any additional ICT facilities for your school? If yes, state the name of facilities:- a) ………………………………………………………… b) ………………………………………………………… c) …………………………………………………………		

B. AVAILABILITY AND UTILITY OF SMART SCHOOL

14.	Does your school have smart classroom?		
15.	Is your smart classroom spacious? If yes, Write the sitting capacity of students at a time- ……………		
16.	Does your smart classroom have proper furniture?		
17.	Does your smart classroom have these devices:-		
	a) 40 PCs (or 4 server with 10 terminals)		
	b) 4 projectors		

	c) 4 printer		
	d) 4 scanner		
	e) 4 web camera		
	f) 4 modem		
	g) Broadband antenna		
	h) UPS		
	i) Video camera		
18.	Does your smart classroom have operating system & Application software?		
19.	Does your smart classroom have educational software and CD ROMs? If yes, state the name of software:- a) …………………………………………………………… b) …………………………………………………………… c) ……………………………………………………………		
20.	Does your smart classroom have internet broadband connection?		
21.	Does smart classroom enhance technical skills among students?		
22.	Are smart classroom facilities shared by neighborhood schools?		

C. PROFESSIONAL GROWTH AND MODE OF APPRAISAL OF TEACHERS

23.	Does your school have adequate number of ICT/computer teachers? If yes, state the mode of appointment:-		
	a) Permanent computer teachers		
	b) Contract based computer teachers		
	c) Both permanent & contract based teachers		
24.	Do your teachers have essential qualification and technical skills to teach computer literacy? If yes, state the qualification of teachers:- Name of teachers Qualification a) ……………………….. . ……………………….. b) ……………………….. ……………………….. c) ……………………….. ………………………..		

	d) …………………….. ……………………………..		
25.	Does government provide any pre-service training to the computer teachers? If yes, state the areas of training as following:-		
	a) Computer overview		
	b) Operating system		
	c) Working with multimedia and making movies and recording sounds		
	d) Networking/internet/e-mail		
	e) Using word processor		
	f) Using spreadsheet		
	g) Subject specific TL tools, e.g. labs, animation, musueumetc.		
	h) Database creation & management		
	i) Classroom learning and teaching tools(white boards, collaborative cooperative tools)		
26.	Does the content of pre-service training sufficient for professional development? If no, state the contentwhich should be included in pre-service training. a) ……………………………………………………………… b) …………………………………………………………….. c) ……………………………………………………………..		
27.	Is the time period of pre-service training as per norms? If yes, state the time period…………………………………………………….		
28.	Is the time period of pre-service training sufficient? If no, what should the time period for pre-service training according to you? ……………………………………………		
29.	Does government provide in-service training to the computer teachers? If yes, state the areas of training as following:-		
	a) Introduction part		
	b) Computer overview		
	c) Operating system		
	d) Productivity suits & integration of presentation software in classroom learning		
	e) Document management using word processor		
	f) Spreadsheet creation using spreadsheet		
	g) Internet/e-mail		
	h) Classroom learning and teaching tools		
	i) Assessment		
	j) Feedback		
30.	Is the content of in-service training sufficient for professional development?		

	If no, state the topics which should be included in in-service training. a) …………………………………………………………... b) …………………………………………………………... c) ………………………………………………………….. d) …………………………………………………………...		
31.	Is the time period of in-service training as per norms? If yes, state the time period……………………………………………………………..		
32.	Is the time period of in-service training sufficient? If no, what should be the time period for in-service training according to you? ………………………………………………		
33.	Does government provide refresher training to in-service computer teachers? If yes, state the areas of training as following:-		
	a) Working with multimedia.		
	b) Making and editing movies (picture story).		
	c) Working with pictures (picture management).		
	d) Internet and e communication.		
	e) Overview of management information system.		
	f) Legal and ethical aspects of web based information.		
	g) Computer technology and security.		
	h) Search optimization(search engines).		
	i) Classroom teaching-learning tools.		
	j) Assessment and evaluation.		
34.	Is the knowledge of refresher training sufficient for professional development? If no, state the topics which should be included in in-service training. a) ………………………………………………………………. b) ……………………………………………………………….. c) ……………………………………………………………….. d) ………………………………………………………………..		
35.	Is the time period of refresher training as per norms? If yes, state the time period………………………………………………………………		
36.	Is the time period of refresher training sufficient? If no, what should the time period for refresher training according to you? ……………………………………………………		
37.	Do the teachers receive any TA/DA for attend professional training programs? If yes, state the amount of TA/DA…………………………….		
38.	Do your teachers use ICT to bring innovations in education?		
39.	Do your teachers receive any national award using ICT for innovations in		

	education? If yes, state the:- a) Name of teacher who achieve this award………………………… b) Amount of award………………………………………………..		

D. DEVELOPMENT OF E-CONTENT

40.	Does your school provide e content to students?		
41.	Do your ICT teachers develop the interactive multimedia packages?		
42.	Does your school use e content for various subjects? If yes, state the name of subjects:- a) ………………………………………….. b) ………………………………………….. c) ………………………………………….. d) ………………………………………….. e) …………………………………………		
43.	Is the e-content helpful to enhance the comprehensive level of students?		
44.	Do your ICT teachers develop e-content?		
45.	Does your school receive financial aid for the development of e-content? If yes, state the governing body which provide funds- ………………………………………………………………….		
46.	Are you satisfied with the aids which you receive for the development of e-content?		
47.	Does your school provide e content in regional language to students? If yes, state the language in which e-content is to be provided:- a) ………………………………………….. b) ………………………………………….. c) ………………………………………….. d) …………………………………………..		
48.	Does your computer teachers get training in instructional design? If yes, name the teachers who receive training in instructional design:- a) ………………………………………… b) ………………………………………… c) …………………………………………		

E. AVAILABILITY OF FINANCE

49.	Doesyour school receive any financial assistance from government for implementing ICT scheme in your school?		

	If yes, state the amount of financial assistance……………………………..		
50.	Does government provide funds at adequate time?		
51.	Are the funds sufficient for implementation of ICT scheme in your school?		
52.	Does government provide extra financial assistance for:-		
	a) Computer stationary (printer, CD ROM, DVD etc.)		
	b) Electricity charges.		
	c) Diesel/Kerosene for generator.		
	d) Telephone charges.		
	e) Internet broadband charges.		
	f) Teachers' salary.		
	g) Refresher training to teachers. h) Management, Monitoring and evaluation.		
53.	Doesyour school properly utilize the funds?		
54.	Do you maintain the records of utilization the funds?		
55.	Does your school receive funds from another sources for providing the ICT facilities to students? If yes, state the sources:- a) …………………………………………………….. b) ……………………………………………………… c) ………………………………………………………		

56. State the problems which are faced in the implementation of ICT scheme by your school.

a) …………………………………………………………………………………………………

b) …………………………………………………………………………………………………

c) …………………………………………………………………………………………………

d) …………………………………………………………………………………………………

e) …………………………………………………………………………………………………

f) …………………………………………………………………………………………………

57. Suggest remedial measures to overcome the problems for improvement and effective functioning of ICT scheme.

a) ……………………………………………………………………………………………

b) …………………………………………………………………………………………..

c) …………………………………………………………………………………………

d) …………………………………………………………………………………………

e) …………………………………………………………………………………………

f) …………………………………………………………………………………………

Signature with Seal   **Thanks for Co- Operation**