CHAPTER III

ROLE OF EDUCATION IN A DEVELOPING COUNTRY LIKE INDIA

1. Introduction
2. Changing Role of Educational sector
3. Quality parameters of school education
4. IT in Education
3.1 INTRODUCTION

Over a long period of time it was believed that accelerating rate of physical capital formation was necessary for attaining higher rate of economic development and raising the standard of living of the people in a developing country. But in the last three decades economic research has revealed the importance of human skills and knowledge of the people especially labour force. It is not only the quantitative expansion of educational opportunities but also the qualitative improvement of the type of education which is imparted to the people especially working people that hold the key to economic development. On account of its significant contribution to economic development, education has been considered as a human capital formation and expenditure on educational activities for the people as investment in men or human capital. According to Harbinson (1973) “Human resources constitute the ultimate basis of production, human beings are the active agents who accumulate capital, exploit natural resources, build social, economic and political organizations and carry forward national development. Clearly a country which is unable to develop the skills and knowledge of its people and utilize them effectively in the national economy will be unable to develop anything else.

It was also realized that merely physical capital formation will not automatically promote economic development because it needs human hands to make physical capital operative and it is the efficiency of production of human hands ultimately contribute to economic development of a developing country.

Several empirical studies conducted in developed countries especially in USA regarding sources of growth ie contributions made by various factors such as physical capital, physical labour or man hours, education etc. concluded that education or the development of human capital has been a significant source of economic growth. Solow(1957) who was the first economist to measure the contribution of human capital to economic growth estimated that, for United States between 1909 and 1949, 57.5 percent of the growth in output per man hours could be attributed to the residual factor which represents the effect of the technological change and of the improvement in the quality of labour mainly as a consequence of education.
Denison (1983) studied the “Trends in American Economics Growth (1929-82)” Concluded that during this period the USA’s total national output increased at a rate of 2.9 percent per annum, increase in labour input accounted for 32 percent and the remaining 68 percent was due to the increase in productivity per worker. Then the contributions of education per worker, capital formation, technological change and economies of scale. He concluded that 28 percent points of contribution to growth in output due to growth in labour productivity was due to technological changes, 19 percent points due to education per worker and 9 percent points due to economies of scale. Thus it may be concluded that education and technology progress together made 42 percent contribution to growth in national product, this research explains the role played by skilled persons and technology in increasing the national product and ultimately in promoting economic growth.

Baker (1960) also measured income differential arising from the cost on expenditure incurred in acquiring a college education in the US. His estimates showed that the rates of return on education in USA for urban white collar population were 12.5 percent in 1940 and 10 percent in 1950.

Schultz (1961) studied the relationship between expenditure on education and consumer income and also the relationship between expenditure on education and physical capital formation for the USA during the period 1900-1956 and concluded that, when measured in constant dollars, “the resources allocated to education rose about three and a half times relative to consumer income in terms of dollars and relative to the gross formation of physical capital in terms of dollars. Thus investment has been 3.5 times more attractive than investment in physical capital.

Thus expenditure on education is to be considered as an investment, like investment in physical capital because it increases productivity of the labour which contributes to growth of natural income of country. Educated workers get higher wages which is benefit not only the individual but also to the society as a whole. Higher productivity leads to higher income, higher output and higher standard of living.

Education can be seen as a product or process and considered in a broad sense or a technical sense. In its broad sense education refers to any act or experience that has a formative effect on the mind, character or physical ability of an individual. In its technical sense education is the process by which society, through schools, colleges and universities and other institutions, deliberately transmits its
cultural heritage - its accumulated knowledge, values and skills from one generation to another.

Education refers to all experiences in which students can learn something by:

1. **Instructions** - refers to the intentional facilitating of learning toward identified goals, delivered either by an instructor or other forms.
2. **Teaching** – refers to the action of real live instructor designed to impact learning to the student.
3. **Training** - refers to learning with a view toward preparing learners with specific knowledge, skills or abilities than can be applied immediately upon completion.

Education plays a crucial role in a social and economic development of a nation. Education refers to “Sensitivities and perceptions that contribute to national cohesion, a scientific temper and independence of mind and spirit thus furthering the goals of socialism, secularism and democracy, enshrined in our constitution”. Education develops man power for different levels of the economy. It provides a necessary base for developing research and development, which ultimately leads to national self defense. Thus education is a unique investment for developing human capital.

### 3.2 CHANGING ROLE OF EDUCATIONAL SECTOR

Education plays a crucial role in the life of a child by shaping his behavior. Teachers, parents, policy makers and society desire certain changes in the behavior of a child which are expected to take place through education, so as to enable him to survive by facing challenges and grow under dynamic and complex environment and satisfy, and to be able to maintain healthy relations with his fellows and lead a successful and richer life. Conditions of survival in a society are also changing. In the past century the literacy rate of Indian population was much lower because during those days literacy was not essential for survival. People were engaged in various life supporting activities such as farming, spinning etc.

Not necessary but skill and knowledge was sufficient leading to economic development, machines replaced men and different forms of careers originated. In order to adopt these careers different types of skills becomes necessary. This led to the increase in the knowledge of reading, writing and arithmetic described as
“Three Rs.” Now we experience revolutions in almost all the fields affecting human life experience information revolution, technological revolution giving rise to a knowledge society. Now life has become technology or gadget based where gadgets are available for most of the activities carried out by human beings. This technological advance made the field knowledge quite vast. Hence to lead life successfully under present conditions certain very different types of skills becomes necessary.

Hence the national policy on Skills Development was approved by the Government of India in 2009, where certain basic skills required to acquire by the students were identified. Some of these skills are:

1. Communication and presentation
2. Acquiring and processing information
3. Synthesizing knowledge
4. Integrating knowledge from other disciplines
5. Leadership
6. Analytical skill.
7. Language skill
8. Computer science skill
9. Creative thinking
10. Problem solving
11. Public relations management skills

Now it is the responsibility of the educational system to develop students right from his childhood towards young and matured student through systematic formal education, to enable him to become an idle citizen of modern India.

Modern society is knowledge and technology based society where connectivity is driving the economy. Hence knowledge is considered as the primary productive resource. It is the innovative capacity which empowers the knowledge society. In order to develop a well informed society, efficient and effective utilization of knowledge is necessary. Developing countries especially India aims at promoting knowledge based societies. As knowledge era exposes us to a competitive world, knowledge has to be used as a crucial weapon for developing knowledge society. Thus the prosperity of the knowledge society will depend on, creation,
development and maintenance of knowledge infrastructure and knowledge workers. According to Venkata Subramanian (2000), knowledge society means “creating sharing and using knowledge as the key factor in bringing about prosperity and well being of people”. A great historian Alvin Toffler (1980), developed the idea that power at the dawn of civilization resided in the ‘muscle power’, then got itself associated with ‘wealth’ and in 20th century it shifted its focus to ‘mind’. Thus the evolution of the shifting foundations of economy is characterized by shift from physical power to wealth power to mind power. Thus “The economic, social, cultural and technological changes in the national and international scene contribute to the knowledge society.”

India can attend higher rate of growth if India becomes stronger in the knowledge sector and information technology is properly exploited. Thus India can overcome the problem of poverty, generate wealth at a higher rate and can play a significant role at the global level.

In order to develop knowledge society, information has to be structured for fulfilling basic conditions of interactivity, mobility and convertibility, ubiquity and globalization, as Toffer (1990) has pointed out. The societal transformation can be achieved by way of developing educational facilities, improving governance. There measures will generate employment opportunities, rapid increase in productivity and promoting rural prosperity. In this context information and communication technology (ICT) can play a crucial role if it is included in educational and training fields for achieving desired results.

Since last decade there has been significant progress in knowledge and information sectors in India. Now India has attained a position among ICT oriented countries. On account of extensive use of satellites, televisions, computers, internet etc. there has been a flow of knowledge and information. However the benefits of knowledge are equally distributed, which has resulted in developing “Islands of prosperity and continents of ignorance poverty, illiteracy over population, backwardness and poor health”. In orders to develop and maintain knowledge society three types of networks are needed. These are electronic network, the transport network and the river network. Electronic network helps in generating wealth and permits
knowledge top spread in each and every corner of the world. Thus knowledge multiplies and contributes to generating wealth significantly. Transport network promotes mobility of men and materials, economically. River network helps in achieving rural prosperity by way of increasing productivity of agriculture and related activities.

The future, stability and development of any society depends upon it ITC use and knowledge technologies. Education is an effective tool for empowering the people and society. It promotes participation of citizen in the process of progress and prosperity of a nation. There is a direct relation between education and society. It serves, as education originates from the society and contributes towards bringing about social changes and in turn gets itself changed by an individual but also of the society. Education not only promotes development of individual but also that of the society. Education not only promotes development of individual but also that of the society. Education not only promotes development of individual but also that of the society. Education not only promotes development of individual but also that of the society. Education not only promotes development of individual but also that of the society.

When educational inputs are properly planed and used effectively, then it can increase national output, cultural richness and build positive attitude towards technology. It increases efficiency and effectiveness of the governance. Education not only develops new values but also strengthens competencies and develops commitment and sharpens the ability to self-examination, self-monitoring and also self-criticism.

The main purpose of education in a country like India is to bring about human resource development and contributes towards transforming it into knowledge society. This can be achieved through quality teachers and quality content. The real capital in knowledge society is its knowledge workers. Society will aim at creating knowledge intensive environment and developing processes to create, share and protect knowledge. Education is considered as an engine of personnel, social and economic growth.

Indian educational system consists of primary or elementary education, secondary education, higher education and tertiary education. Universalisation of elementary
education was given the top priority, since Indian Independence. It includes not only three Rs (reading, writing and arithmetic) but also aims at bringing about harmonious development of the child. It provides necessary base for secondary education. Secondary education is the connecting like between primary education and higher education. It plays a crucial role in the lives of the students. This is the stage where young people should be able to decide about their own future according to their own tasks, preferences and aptitudes so that they can acquire the skills and abilities for enjoying a successful adult life. It has been realized that, if India aims at attaining and maintaining higher rate of economic and social development, then significant improvements at the secondary educational structure are necessary. According to view of the Kothari commission, secondary education enables students to carry responsibilities of life on their shoulders and can get engaged in useful commercial activities. Higher education deals with education imparted in colleges, universities and various types of institutions, with the aim that the students understands himself prevailing conditions of the society and develops himself physically, psychologically and morally so as to enable himself to make contribution towards developing a knowledge society which can ultimately result in social and national development. The scope and role of tertiary education has increased since last four decades. It includes learning and teaching at the high level of conceptual and intellectual skills in various disciplines. It is much more diversified and includes new types of institutions. Tertiary education policy is given high priority as it is a major driver of economic competitiveness in an increasing knowledge driven global economy. It contributes towards social and economic development through four major strategies.

1. The formation of human capital through teaching.
2. The building of knowledge bases through interaction with knowledge users.
3. The dissemination and use of knowledge through interaction knowledge uses.
4. The maintenance of knowledge through inter generational storage and transmission of knowledge.

National knowledge Commission recommended in the context of education in India as follows-

Our educational system should realised itself at the earliest to meet the needs of the present day challenges and be fully geared to participate in the societal transformation. Knowledge society enriches information society through
innovation. Information society enriches agriculture and manufacturing through value addition. National knowledge commission (NKC) believed that providing universal access to quality school education is the corner stone of development and minimum necessary condition for any progress towards making India knowledge society. The commission focused on five key aspects of knowledge: which is, enhancing access to knowledge, reinvigorating institutions whereas knowledge concepts are imparted, creating a world class environment for creation of knowledge, promoting applications of knowledge for sustained and inclusive growth and using knowledge applications in efficient delivery of public services.

Thus it may be concluded that-
The basis of future society is education, a life long process and knowledge and information represents the key variables in the development of society. Education not only civilize man but also includes moral values and principals for living out a better social life in the world. Education is the important path to development knowledge society. Education can provide not only the best technological potential innovators, can create an advance in knowledge and create economic growth.

As population develops, society also develops. When individual undergoes more educational, he becomes able to face new challenges generated by the knowledge based society and economy. Thus investment in education becomes the most important investment of the society, as knowledge society produces commodities of high knowledge value.

3.3 FRESH FOCUS ON SECONDARY EDUCATION

The schools are divided into three types-
Aided/Granded schools – The schools getting permanent aid from the government of Maharashtra.
Non-aided schools or Private schools-These schools do not have any grant from state or central government.

Municipal Schools- These schools are run by the Pune municipal corporation. The education department of corporation takes charge of these schools. They provide the necessary infrastructure required, library, laboratories etc.
Central board schools- For the current study undertaken are the schools running under the control of central government. They are having grant directly given by the central government.

The education department of Maharashtra state has decided to identify deficiencies in the existing secondary schools, establish new schools and develop state specific norms for physical facilities under the Rashtriya Madhyamik Shiksha Abhiyan (RMSA), for which Rs. 711 crs have been allocated in fiscal budget 2013-14.

The aim of the state is to improve the standard of secondary education in terms of access to education, physical facilities including laboratories, computer lab, libraries, art and craft, toilet blocks and quality of education with focus on science, math’s and English under the scheme. The state project coordinator has drafted different schemes for improving the standard and quality of secondary education in the state.

The scheme aims at ensuring that, all secondary schools have physical facilities, staff and supplies according to the prescribed standard. According to the course coordinator, “Providing required infrastructure like blackboards, furniture, libraries, science and laborites, computer lab and appointment of additional teachers and in service training teachers will be on priority list once the scheme is approved.

The state education department has also proposed to increase the number of Kendriaya Vidyalaya and Jawahar Novodaya Vidyalayas in view of their importance as pace setting schools and strengthen their role.

3.4 QUALITY PARAMETERS OF SCHOOL EDUCATION

Education plays imperative role in the process of the advantage of an individual’s country and his destiny. Education is a fundamental right in India and an important millennium development goal to which India is totally committed, various religious philosophers have provided essential ingredients of value based
school education in India. Education in India considered the most powerful means of modification of human behavior this described as the means of all around development of personality and values among the human beings. Education without anchoring in human values is incomplete and may create unidirectional citizens. Hence the national policy of education, as revised in 1992 had emphasized the need for substantial improvement in quality of education, to achieve essential levels of learning. The programmed of Action 1992 stressed the need to lay down Minimum levels of learning (MLL) at primary and upper primary levels. This need originated from the basic concern that irrespective of caste, creed, location or sex, all children in India must be given access to quality education of comparable standards. Thus the MLL strategy was seen as attempt to combine quality with equity.

Education is one of the important factors that shape the personality of a child of a high quality. The quality of education is basic to the European Trade Union Committee for Education (ETueE). A quality education system must manage to provide all children and young people without distinction of any kind, with a comprehensive education and with an appropriate preparation for working life. Life in society and private life in the form of further education within vocational schools, colleges, universities or other educational institute’s. However parents and student tend to measure quality of education by the level of performance in the form of marks or grades obtained in the examination. But the concept of quality of education is an umbrella concept which includes all those aspects of education which make it efficient and good. It includes availability of infrastructure such as buildings, trained teachers and quality of instruction, course, syllabi etc. Thus quality of education includes all this aspects.

Indicators of quality education are stated to be as follows. educational system that gives every child-

1. A better quality of life.
2. Access to opportunities leading to a productive life.
3. The potential to find answers to problems.
4. Education that contributes to peace.
5. The knowledge of and respect of history, culture, music and the environment in which it lives.

6. A healthy life style, quality in relationship, family and community life and knowledge of financial management for life after school.

7. Enrollment in tertiary education.

8. Opportunities for employments.


10. Adequate qualifications, salaries and conditions of service for teachers teaching in schools.

11. Infrastructure that meets the needs of students and staff.

12. Resources for students to acquire various skills.

13. Employments opportunities for school level and those with post secondary education

According to global monitoring report of UNESCO (2006) the child performance needs to be treated as a parameter of quality in school education. The Childs knowledge and skills nature of knowledge and it s relation with the child own nature and the approach used by the curriculum designer and teachers while preparing curriculum and textbooks respectively are the vital parameters. Distances from these parameters quality parameters deteriorate the quality in school education.

UNICEF (2000) and UNSECO (2004) have recognized five parameters of quality education which are learner, priorities, context, environment and outcomes thus quality parameter learner for whom the educational infrastructure is the first and most important condition. Understanding priorities to improve efficiency is necessity for example schools should be housed in pucca buildings, environment should be such that the wastage of working does due to bad weather conditions can be minimized with improving buildings so that the outcome can be improved but in India a large number of schools do not have safe pucca buildings for their schools and infrastructure is also remains a neglected field.

Syllabus contents and methods of instruction have to be made learner centric and outcome based the pupil teacher ratio should be kept at lower level so that a
teacher can give proper attention to each student, so as to improve the quality of education.

In order to become a good citizen it is necessary to have better performance in various subjects covered by the study along with habits, attitudes, values and life skills. The factors associated with success of these areas which are related to the conditions of learning environment also the indicators of quality of school education.

Quality issues in school education are thus related to quality of infrastructure and support services, opportunity time, teacher characteristics and teacher motivation, free service and in service education of teachers, curriculum, and teaching learning material, class room’s processes, pupil education, monitoring and supervision etc. Thus improvement in these parameters and its maintenance is the grave concern for the educational system as a whole.

As students come from different backgrounds quality education focuses on identification of the varieties of each individual nurturing these varieties for holistic development of the individual students. Thus, nurturing each student to optimize his potential is a crucial parameter of school education.

Optimization of potential of each school is a parameter of school education. Continuous search for improvement is a parameter. Mukhopadyaya(1999) has mentioned four qualities which are informed, cultured, emancipated and self actualized which indicate educatedness. Thus quality in education can be indicated by educationist of the product of the school. Availability and use of modern technology supported required resources in school enables the teachers to meet challenges of globalization and give updated knowledge to the students to bring out quality.

In the countries which affected by the political economy of colonialism, the tension between quality and equality continues to be an obstacle to social and policy changes according to J.P.Naik, equality, quality and quantity is an elusive triangle which has country pulls in the shape of diamonds and resistance to school education in India. Hence for maintenance of equality and quality in Indian school education has been essential and guiding parameter for quality education.
3.5 IT IN EDUCATION
The use of IT in education is not only economical but also highly effective. It enables to improve the quality of education and making knowledge available to a large number of students at the same time.

Technology is a branch of science which deals with machinery and equipments systems their design and application and making continuous efforts in improving them. Technology means scientific other organized knowledge that uses various activities easy and simple in practice. Scientific and other organized knowledge include skills, experience and common sense. In case of the use of technology human beings use it efficiently and effectively and hence it becomes a part of social life system.

The process of education of any type includes two types of educational activities. Non – interactive Educational Activities Reading a book, observing TV or video program listening a lecture writing essays solving arithmetical exercises/examples etc. which are done by a student independently are non interactive educational activities. Indian educational system has been dominated by such type of educational activities under these activities there is no involvement of individual response either of the teacher or other students. These activities provide mainly the information about the subject. Such information enables most of students to convert it into development of knowledge for which interactive educational activities are needed.

There will be hardly any Eklavaya to learn on his own without any help from his teacher or guide. Most of the students need help of a teacher especially for interactive educational activities.

INTERACTIVE EDUCATIONAL ACTIVITIES
In case of non interactive educational activities its easily possible to use IT for making high quality education with maximum availability. For the development of such type of high quality educational aids initially efforts capital and time has to be given only once.
As IT contributes significant towards promoting interactive educational activities, an attempt has been made to review the national policy on ICT in school education in India in the following chapter.
RESEARCH METHODOLOGY

3.5 Secondary Data
3.6 Primary Data
3.7 Questionnaires
3.8 Field visits
3.9 Interview
RESEARCH METHODOLOGY
The main objective of the present study is to study the computer awareness among school going children in Pune city. The necessary data was collected from the secondary and primary sources.

3.5 SECONDARY DATA:-
1. Available data from the reports of various committees publish by the Government department, relating to the computer education (ICT awareness) of the school, students in India and Maharashtra state.
2. Research papers/ Articles on the subject of computer education for school student published abroad and in India in various journals and magazines.
3. Books, Ph.D thesis relating to computer education for school students, publish abroad and in India.

1. PRIMARY DATA :
In order to collect primary data it was necessary to determine the sample and the sample size. The data relating to the schools in Pune district was available with Pune Zilha Parishad, Education division (Secondary) which gives the details of medium wise number of secondary schools in Pune district.

The section of secondary education under Maharashtra state school education department has been functioning through Zilha Parishad of States. All the government approved secondary schools in a district, included in secondary education department are functioning, which include granted, non-granted and permanently without grant(Private schools) having different medium of instructions. These schools include, schools with standard 5\textsuperscript{th} to 10\textsuperscript{th}, 5\textsuperscript{th} to 12\textsuperscript{th}, standard 8\textsuperscript{th} to 10\textsuperscript{th} and standard 4\textsuperscript{th} to 12\textsuperscript{th}. The administration of the schools is carried out by secondary school division.

In all these schools, various scheme for the benefit of the society and students are implemented. According to the governments criteria annually various post in these schools are ascertained and accordingly salaries of the staff in grantable schools are finalized.
Educational officers (Secondary Education) are in charge of the wage Board and the secondary education division and their assistance and other employees
cooperate in implementing various schemes for reaching upto the ultimate beneficiaries.

In the present age of information and technology (computer), secondary education division carries out its work with the help of computer. Hence without considering cost, various circulars, government rules and regulation and information about various schemes relating to the secondary education is declared on the website (http://www.punezp.org/edumadhyamic.html). Similarly information about finalized list of employees, provident fund, medical bills etc. is also given on the website.

The information about the secondary school in Pune city.

**Period of survey 2010-11**

<table>
<thead>
<tr>
<th>Category</th>
<th>No. of Schools</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Granted</td>
<td>205</td>
<td>52.69</td>
</tr>
<tr>
<td>Private Schools</td>
<td>151</td>
<td>38.81</td>
</tr>
<tr>
<td>CBSE</td>
<td>33</td>
<td>8.50</td>
</tr>
<tr>
<td>Municipal</td>
<td>5</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>440</td>
<td>100.00</td>
</tr>
</tbody>
</table>

In addition there are school affiliated to the central board like Central Board of Secondary Education (CBSE) and Indian Certificate of Secondary Examination (ICSE) in Pune city. In the year 2010-11, there were 21 CBSE schools and 12 ICSE schools. Thus there were 33 Central Board schools in Pune city. Thus there were 356 aided and private schools and 33 Central Board schools and 5 municipal schools having 10th standard. Total no of schools were 440. In order to calculate sample size following formula was used.

Formula for estimating sample size

\[
SS = \frac{Z^2 \cdot p \cdot (1-p)}{C^2}
\]

where

\[
Z = Z \text{ value (eg. 1.96 for 95% confidence level)}
\]
P= Percentage Picking a choice, expressed as decimal (0.5 used for sample size needed)

C= confidence interval, expressed as decimal (eg. 0.15=+/- 15)

\[ SS = (1.96)^2 \times 0.5 \times (1-0.5) \]
\[ = (1.96)^2 \times 0.25 \]
\[ = 3.8416 \times 0.25 \]
\[ = 0.9604 \]

Correction of finite population

\[ SS = \frac{SS}{1 + \frac{SS-1}{Pop}} \]

where

Pop is population

The modified sample size
\[ = 44 \]
\[ = 44 \]
\[ 1 + \frac{43}{440} \]
\[ = 44 \]

When 10 percent sample of 440 considered, we get 44 schools. The stratified convenient sampling method was used for the study as per following stratum.
<table>
<thead>
<tr>
<th>Type of School</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aided schools</td>
<td>21</td>
</tr>
<tr>
<td>Unaided/Private</td>
<td>15</td>
</tr>
<tr>
<td>Central Board schools</td>
<td>03</td>
</tr>
<tr>
<td>Municipal schools</td>
<td>05</td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
</tr>
</tbody>
</table>

Sample size for parents and students

Formula

\[
SS = \frac{Z^2 \times p \times (1-p)}{C^2}
\]

Where

Z= Z value (eg. 1.96 for 95% confidence level)
P= Percentage Picking a choice, expressed as decimal (0.05 used for sample size needed)
C= confidence interval, expressed as decimal (eg. 0.05=+/− 5)

\[
SS = \frac{(1.96)^2 \times 0.5 \times (1-0.5)}{(0.15)^2}
\]

\[
= \frac{(3.8416) \times 0.5 \times 0.5}{(0.15)^2}
\]

\[
= 44
\]

Thus for the purpose of present study a sample size of schools was 44 and 10 students studying in the standard 10th were selected who were willing to respond and their parents were covered. Thus the sample included 44 schools, 440 students and 440 parents.

The technique used for collecting necessary data were-
1. Questionnaires
2. Field Visits
3. Interviews
3.4 QUESTIONNAIRES :-

Three sets of questionnaires were prepared and tested (pilot study) for collecting required data for the present work

Set 1) The first set of questionnaires was prepared for schools for collecting data relating to the recognition of the schools, respondent title, age, years of service, year in which school started computer education, number of computer labs and number of computer for students, sources of obtaining hardware and software, no. of computer teacher, no. of lectures for computer education, qualification and experience of computer teachers, subject learned by the students, attending seminars and computer workshops, training program, teaching methodologies used etc.

Set 2) The second set of questionnaires was prepared after testing for the school students which included questions relating to the sources of help in solving difficulties while using computers, purpose of using computers, use of internet, usefulness of computers and applications, subjects for which were used etc.

Set 3) The third set of questionnaire was finalized after testing for the parents of the students selected for the study which included personal data relating to the age, educational qualification, annual income, occupation and the purpose for which computers were used by them, their expectation about computer education and sources of learning computers by their children etc.

1. Field visits:
Various schools selected for study were visited in order to get additional information about available infrastructure, computers labs, and environment under which teaching computer was conducted in various schools.

2. Interview
In order to know about the policies, strategies, budgetary allocation and goals relating to the computer awareness among secondary school students, interviews were conducted with the school authorities, senior teacher, administrative staff, while facing problem in implementing these policies and strategies etc. The data thus collected has been analyzed and interpreted in order to arrive at meaningful
conclusion and suggestion are given for making computer awareness among school going children more effective
CHAPTER III

REFERENCES