CHAPTER –I
INTRODUCTION

1.0 Introduction

Knowledge is desired by humankind since time immemorial. Learning novel concepts has always been our inherent nature. The inquisitiveness of knowing and understanding has created a wealth of knowledge over a period of time. Therefore, a need emerged, of imparting this knowledge to future generations. It was taken care by establishing standard education systems, which evolved and has seen radical changes since several years. In pre-historic societies, education was achieved orally and through imitation. Since early history, mankind has devised means to help people learn in ways that are easier, faster, surer, or less expensive than previous means. From this perspective, Educational Technology can be traced back to the emergence of very early tools, such as paintings on cave walls (Molenda, 2008; Nye, 2007). However, the use of media for instructional purposes is generally traced back to the first decade of the 20th century, (Saettler, 1990) with the introduction of educational films (1900's) and Sidney Pressey's mechanical teaching machines (1920's). In most countries currently, education is compulsory for all children up to a certain age. Owing to this the propagation of compulsory education, combined with population growth, UNESCO has calculated that in the next 30 years more people will receive formal education than in all of human history thus far (Robinson, 2006).

Today when technology has walked into every facet of our society, education which is an indispensable and fundamental element, should be given vital importance and cannot be left behind. Plato believed that children would never learn unless they wanted to learn. As a need of the hour, advent of technology in academics has attracted children towards “interactive learning”. Significant technological shifts like mobile phones, Internet, tablets, apps and social media have enormously improved the way education is imparted in schools and institutions. The power of computers to simulate various physical systems has made it potentially useful in pedagogy. Such is the drive that these technological tools have induced, that the entire dynamics of teaching and learning process has been transformed.

Use and awareness of Information Technology (IT) is not only an answer to the growing demands for enrollment in education, but is also in tune with the mindset of
the present day students and helps to meet the challenges in the growth of knowledge. Classic learning through Encyclopedias, public libraries and grammar schools are examples of where innovations are to be implemented to provide effective education.

Technology is very dynamic. With time, latest technologies will continue to emerge and break paradigms that will redesign human thinking process regarding technological innovation. So there is a need for educational institutions to proceed constantly to adopt new technologies. Their motive here should be to help increase paperless classrooms, where students adopt to an e-boards connected to their Tablet PC’s, thus moving away from a traditional blackboards. From Personal Computers (PC) and Wi-Fi campuses to smart classrooms and Tablets, the modern education has introduced students to more thought-provoking, interactive and involved process of education. Research shows that individualized instruction accelerates and intensifies learning. That is when teaching adapts to a student’s learning abilities, requirements, as well as his/her present knowledge, understanding information, and cognitive abilities, the student acquires expertise on content and skills more quickly. Small changes in education may have great social returns in health, wealth and well-being in society.

Technology oriented education system has promised to boost more productivity in students, librarian and teachers. It has ensured the advantage of playing educational games, solving puzzles etc. in the classroom session, to make sure they grasp everything from the lecture, develop valuable research skills and understand the concepts faster and also distance learning.

Watkins (1986) states that technology is “Not so much to closely align to the ephemeral demands of industry but to equip students with the more fundamental, expansive skills of being able to critique and reflect on the changes taking place in their society”. Also, Waxman, Lin, and Michko (2003) studied the effects of technology and learning with technology on student outcomes with statistical data from 42 research students. The results suggest that technology has a small, positive significant effect on student outcome when compared with instruction. Pedagogic transformations with the impact of technology enable to stay easily connected to individual students and hence help in systematic form of assessment.
India has been trying to be one of the forerunner among the developing countries in promoting technology in the field of Education. Both Kendriya Vidyalayas’ and Navodaya Vidyalaya Samitis’ have identified the schools to convert one school per State/Union Territory into a SMART school subject to availability of funds. Thus, a school having 160 computers at 40 computers for each IX to XII classes may be called a SMART school under the scheme. Compared to world societies, as the Internet penetration in India is still low, training in usage of technology innovation tools is the need of the hour. Providing an efficient technological infrastructure in schools is still a challenge in India, as there is a need of more funds and accreditations. The ‘ICT in Schools’ scheme is an opportunity to the students of India to bridge the digital divide. (Department of School Education and Literacy Ministry of Human Resource Development Government of India, 2010)

The need for teaching computer in the Indian primary school has been well established through Government annual reports on current education status. Most of the programs are focused on providing some exposure and teaching Information Technology skills. School should enable students to understand Computer Science concepts and develop reasoning skills. These efforts will serve not only to enhance computers usage in learning, but also prepare the students for their future in any career.

Modern technology such as computer and telecommunication technology have been the most remarkable and transformative of the technology emerging over the past 30 years, the emergence and convergence of these technologies has been termed information and communication. The present study is an attempt to understand awareness and usage of IT for academic information.

1.1 Need for the study

Primary school students need to have awareness and use of Information Technology for academic information at a basic level of education. This gets students prepared for more complex studies later in career. The concept, underlying awareness and use of information resources is not new. The idea that the student must first decide what type of information they need, figure out where to find the information, how to find information, and then determine if the information meets their needs. This has always been the basis of traditional research cycle. Today, Information Technology skills are
concerned with learning about the whole range of information sources and formats. Information Technology skills form the basis for accessing information of needs.

With the growing importance attached to IT and ICT and “Information explosion” as an ever increasing phenomena, there is need to get fast access to information, access to online libraries, access to the sources of information, access to open coursewares to reduce time on many routine tasks.

In this context of academics the researcher wanted to study, whether there exists any intermediate library class room for IT awareness in school; how aware, skilled and comfortable are the school students with IT tools and assess the factors that influenced their use of Internet.

The researcher also wanted to understand, how their attitudes towards Internet are shaped in a scenario where there is more emphasis in enabling environment to promote usage of electronic information resources. The study also looks into the different types of information tools such as computers, Internet access, software applications, and teleconferencing, Smart Boards, email and interactive TV used by the school students.

But, there seems to be little literature on the adoption of IT, Use and awareness of Information Technology for academic information among the school and students respectively. Under such circumstances, it is extremely necessary for a detailed study on “Awareness and use of Information Technology for academic information among the school students”. Such a study not only unfolds variety of information needs of school students and also gives ways to assess the use of different types of Information Technology tools, shows that students need to learn the basics to keep up in a potentially competitive world of technology. Further, it is hoped that this study also helps the teachers, parents and students to judge the importance of social media. The study also unfolds the necessity of students need to constantly update knowledge for changing IT environment and it also addresses the potential problems of use of technology and provides useful suggestions.

1.2 Statement of the Problem

The present study is conceived under the title “Awareness and Use of Information Technology for Academic Information among the Students of CBSE Schools in Mysore District: A Study”
1.3 Definitions of Concepts

1.3.1 Use: as per Oxford dictionary the meaning of “Use” is to cause to act or serve for a purpose or as an instrument or as material for consumption

The term ‘use’ is used here for using Information Technology and tools like software, social media, email, Internet resources, E-learning, etc.

1.3.2 Awareness: as per Oxford dictionary the meaning of “Awareness” is to having knowledge or realization

The term ‘Awareness’ is used here for having knowledge or realization about the Information Technology for academic information

1.3.3 Information Technology (IT), as defined by the Information Technology Association of America (ITAA), is “the study, design, development, implementation, support or management of computer-based information system, particularly software application and computer and computer hardware”. The term in its modern sense first appeared in a 1958 article published in the Harvard Business Review, in which authors Leavitt and Whisler commented that "the new technology does not yet have a single established name. We shall call it Information Technology."

Information Technology (IT) is "the acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information by a microelectronics-based combination of computing and telecommunications".

Information Technology (IT) resources refers to an array of products and services that collect, transform, transmit, present, and otherwise make data into usable, meaningful and accessible information. IT resources include but are not limited to: desktop, laptop, and tablet PC’s; handheld devices including but not limited to Personal Digital Assistants, pocket PC’s, and cell phones; e-mail, voicemail, servers, central computers, and networks; network access systems including wireless systems; hard drives and databases; computer software; printers and projectors; telephone equipment and switches including local and long-distance services; camcorders, TVs, VCR’s, and FAX machines; satellite equipment and any other current or future IT resource adopted by the University.
1.4 Scope and Limitation of the Study
The present study entitled: “Awareness and Use of Information Technology for Academic Information among the Students of CBSE Schools in Mysore District: A Study”

The study has confined its scope to CBSE Schools in Mysore District; where at present there are 29 CBSE schools (include Secondary and Higher Secondary schools).

The study population includes Central Board of Secondary Education (CBSE) School Students, Librarians and Computer Teachers.

1.5 Central Board of Secondary Education (CBSE)

The Central Board of Secondary Education (abbreviated CBSE) is a Board of Education for School level in India of Central Government.

The prime focus of the CBSE is on:

- Innovation in teaching – learning methodologies by devising students friendly and students centered paradigms.
- Reforms in Examination and evaluation practices.
- Skill learning by adding job-oriented and job-linked inputs.
- Regularly updating the pedagogical skill of the teachers and administrators by conducting in service training programmes workshop etc.

1.6 Mysore District

Mysore district lies in the Southern Maidan (Southern Plateau) and it is in the southernmost part of Karnataka State. Physiographically, the region in which the district is found may be classified as partly maidan and partly semimalnad (malnad hilly lands). The district forms the southern part of the Deccan peninsula with Tamil Nadu to its southeast, the Kodagu district to its west, Mandya district to its north, Hassan district to its northwest and Bangalore district to its northeast.

Mysore district forms a distinct land unit, besides being a cultural entity lying between 11°30' N to 12°50' N latitudes and 75°45' E to 77°45' E longitudes. It covers an area of 6854 sq. km. that is, 3.57 per cent of the state’s total geographical area. It
holds the sixth place in the state in terms of the area with a population of 3,001,127 in 2011. From ancient times, this district has played a significant role in the history of South India.

1.7 Education in Mysore District

Along with the many new IT companies, several schools and colleges with best (IT) infrastructure have mushroomed in the city of Mysore. The system of education in Mysore is taken care especially to enhance more IT environment. There are a large number of English as well as vernacular medium schools in Mysore. The students in the various schools of Mysore are trained and educated by efficient and knowledgeable teachers. The Schools in Mysore are mostly affiliated to the State board but there are many schools that impart education in syllabus of various other boards. There are CBSE as well as international schools in Mysore. There are many schools in Mysore that are owned by the private bodies and at the same time large number of schools are either owned or funded by government. Thus, the presence of so many educational institutes speaks of the fact that Mysore has one of the best education system.

1.8 CBSE Schools- Mysore District

Various CBSE Schools of Mysore District considered for the research are listed below:

- Amrita Vidyalayam
- Baden Powell Public School
- Balodyana English School
- Christ Public School
- Central School for Tibetans
- DAV Public School
- Demonstration Multi-Purpose School
- Excel Public School
- Mysore West Lions Sevaniketan school
- Jawahar Navodaya Vidyalaya (JNV)
- JSS Public School
- Kendriya Vidyalaya
- Koutilya Vidyalaya
1.9 Objectives of the Study

1. To study whether there exist intermediate library class room facilities to promote the Students Development process.

2. To probe whether there is enabling environment to promote the usage of electronic information resources.

3. To assess the use and awareness of electronic information resources among school students.

4. To study the information seeking habits of students in order to provide usage range of information resources.

5. To find out the various types of Information Technology tools used by the school students for gaining academic information.

6. To know how frequently the student use Information Technology provided by school authority.

7. To examine the Information Technology skills of children needed for the digital world.
8. To identify the various factors that may affect the students from use of social media/ Internet.

9. To study the impact of electronic resources and services on the academic work of students.

10. To investigate the IT infrastructure facilities provided by the school authority to the school students.

1.10 Hypotheses of the Study

H1:- There is a significant relationship between years of experience in using computers and category of schools.

H2:- There is a significant relationship between access to computer at school and category of schools.

H3:- There is a significant relationship between frequency of use of computer at school and category of schools.

H4:- There is a significant relationship between class period exclusively for use of library and purpose of visit and category of schools.

H5:- There is a significant relationship between specified computer knowledge and category of schools.

H6:- There is a significant relationship between level of Information Technology based skill and category of schools.

H7:- There is a significant relationship between purpose of use of online/offline technology tools and category of schools.

H8:- There is a significant relationship between purpose and frequency of use of computers and category of schools.

H9:- There is a significant relationship between usefulness of computer applications and information resources in academics and category of schools.

H10:- There is a significant relationship between frequency of use of e-resources to meet academic needs and category of schools.

H11:- There is a significant relationship between extent of activities that improve academic work and category of schools.
H12:- There is a significant relationship between use of various software for academic assignment and category of schools.

H13:- There is a significant relationship between opinion about school whether it fit in implementing Information Technology and category of schools.

H14:- There is a significant relationship between harms/ danger known in connection with computer/internet usage and category of schools.

H15:- There is a significant relationship between number of social networking sites used and category of schools.

H16:- There is a significant relationship between time spent on usage of social media sites every day and category of schools.

1.11 Methodology

The investigator initiated the research study with literature search. The primary source for literature search was Library and Information Science Abstracts (LISA) database and Library and Information Science and Technology Abstracts (LISTA). Here the researcher also used other sources such as bibliographies, abstracting and indexing journal. Researcher consulted the primary sources such as journal, reports and conference proceedings. The relevant data was collected through both primary and secondary information sources.

1.11.1 Sample of the study

The present study was conducted on 29 Schools in that are affiliated to Central Board of Secondary Education (CBSE) in Mysore District. In addition to this, the sample consisted of Students, Librarians and Computer Teachers. There were 2835 respondents from CBSE Schools, out of which 29 were the computer faculties and 29 were Librarians and remaining 2777 were students from 8th to 12th class.

1.11.2 Data Collection Tools

The data was collected with prime focus on the use of Information Technology (IT) in academic achievements and different aspects of learning. Along with this, the awareness towards the use of IT in education was also assessed. The details of tools used are being given as below:
The use of Technology (IT) in academic achievements and different aspects of education was assessed with the help of questionnaire designed by the researcher. The questionnaire included queries related to use of IT in academic achievements; use of IT in teaching and learning; use of IT in resource sharing; use of IT in library services.

The investigator adopted Survey method. The tools for collection data is through questionnaire. Before framing the final questionnaire the researcher conducted a pilot study. Also had one to one interaction with some of the teachers & librarians for the opinions and views on the IT and its implementation in school library services & education. After considering remarks / opinions, result based on pilot study and also based on the advices from Professor (s) and Statistician, the questionnaire was modified accordingly and final questionnaire was prepared.

The final questionnaires designed after pilot study was administered to CBSE Schools in the first phase to collect primary data from the School students and one more questionnaire was designed and administered to the Librarians and computer Teachers. The observation and interview techniques was also used for primary data collection.

The questionnaire considered both open ended and closed type questions. The questions were related to all aspects as following:

**Students**

- Part -1 dealt with general information about the respondent
- Part-2 covered respondent awareness level about Information Technology (IT) tools in academics
- Part-3 sought student expertise in using IT tools for academic purpose
- Part-4 of the questionnaire asked for extent of usage of IT tools for education
- Part -5 was regarding Social Networks

**Librarians**

- Part -1 dealt with general information about the respondent
- Part-2 covered respondent skill level about Information Technology (IT) tools
- Part-3 sought student expertise in using IT tools for Library service
- Part -4 was regarding Social Networks

**Computer Teachers**

- Part -1 dealt with general information about the respondent
- Part-2 covered respondent skill level about Information Technology (IT) tools
- Part-3 of the questionnaire asked for extent of usage of IT tools for teaching
- Part -5 was regarding Social Networks

**1.12 Procedure for Data Collection**

As mentioned earlier, the data was collected from 29 schools affiliated Central Board of Secondary Education (CBSE) in Mysore District. The questionnaire was designed on concepts like awareness and use of Information technology for academic achievement, and perception towards the use of IT in teaching & learning and, Library services. The researcher after obtaining permission from school management and Principal, personally visited all schools to collect data from students, Teachers and Librarians.

After identifying appropriate timing according to school time table and date, that particular day researcher visited schools classrooms and explained the research objectives & questionnaire to students, and asked them to fill questionnaires in given time. Also, investigator observed, interacted with students & staff and asked Information Technology related queries, and about infrastructure, technologies used in teaching, library, social networks, usage of computer in classroom etc.

At the end of this visit Computer teacher and Librarian were requested to fill the questionnaire. As the questionnaire cut-across working on maximum aspects of the education relevant for research scope, it took time to fill in the questionnaire. The follow up action was carried out by the investigator through phone and also by e-mail. Many a times there were incidents of negligent handling of the questionnaires, which resulted in the loss of the questionnaires. In such cases, the questionnaires were sent to them again with the request letter to respond at the earliest. Finally after much persuasion and requests the data was collected. About 2777 students responded to the questionnaire; 29 teachers and 29 School Librarians filled the questionnaire. Also, a few schools have not given the permission to collect the data for the research purposes.
1.13 Perception Towards the use of IT in Education

In this study, the perception toward the use of IT in education of students, faculty and Librarians was assessed. For this perception towards the use of IT in education, the investigator used various scales like Likert etc. There were five choices given against each statement like: Skill level (Expert, Good, very good, not skilled) two scale (Yes or No; Agree & Disagree), 4 and 5 scaling. The respondent was required to tick mark on relevant option amongst the given options as his / her response. Similar, scaling were used for assessing skill level in IT services of Librarian and Teachers.

1.14 Data Analysis

After receiving the questionnaires from respondents of various CBSE Schools (i.e. Students, Information Technology teachers, Librarians), the hypotheses was tested with the data obtained from the analysis. Necessary Statistical techniques and methods were used to analyze the collected research data. The data was analyzed by computing percentages and by applying appropriate Statistical techniques. The Content analysis technique was also used for analyzing the responses to the open ended questions. The Chi-Square test was used for comparing the Perception towards the Information technology used by school students for their academic achievement. After completion of the analysis, the findings were drawn and presented in the form of a report. In doing so, many graphs, charts and figures were used for clarity and Visualization of data.

1.15 Organization of the Study

The present study has been organized into four chapters as follows:

Chapter- I: Introduction

This chapter introduces the topic of research and explains need for the study. It states the research problem and defines the concepts related to the study. It explains objectives, hypotheses, methodology, scope and limitation of the study.

Chapter- II: History and Development of Classroom Technology: An Overview

This chapter deals with history and development in Information technology, Classroom technology, E-learning, Smart Class, online educational technology,
required technology skill in Education, technology used for teaching, academic development, Social Networks.

**Chapter- III: Review of Literature**

This chapter gives details about of Information Technology used by school students for academic achievement. Presents a comprehensive review of the related literature for the following categories:

- Information technology skills in Students
- Information Technology for school librarians and teachers
- Education Technology software tools and techniques
- Internet services for academic use
- Information Technology benefits and its role in academics
- Technology for out of school learning
- Social networking
- IT learning environment
- Issues Concerning IT usage in academics

**Chapter- IV: Central Board of Secondary Education and its Affiliated Schools in Mysore District: An Overview**

This chapter presents brings out brief historical account of education in India and the present status of Secondary & Higher Secondary Education in Karnataka. It highlights the milestones of CBSE and Education Technology. Moreover, a brief description of the CBSE schools considered for the study with an importance on their IT Infrastructure and Library is outlined.

**Chapter- V: Data Analysis and Interpretation**

**Part-A:** Analysis and Interpretation of Students Responses

**Part-B:** Analysis and Interpretation of Librarians Responses

**Part-C:** Analysis and Interpretation of Computer Teacher Responses

Gives detailed analysis of the data received from respondents using appropriate Statistical Techniques.
Chapter VI: Findings, Suggestions and Conclusions

A concluding chapter, that present summary of the findings based on the objectives of the study and provides suggestions for further research.

Chapter VII: References

Bibliographic references in a standard citation style is appended at the end.

Annexures

1.16 References


