Chapter I

INTRODUCTION

1. INTRODUCTION:

Education is a vital and main keys to economic development and improvements in human welfare. As global economic competition grows sharper, education becomes very necessary source of competitive advantage, closely linked to economic growth. In addition, education seems to be one of the key determinants of lifetime earnings. It is also linked to a whole batch of indicators of human development. As the pace of technological change quickens and the workforce in many countries grows older, education will continue to offer a way to improve and update the skills and capabilities of the older workforce and the young people joining it. Thus improving the quality of education is a critical issue, particularly at the time of educational expansion.

The Information Communication Technologies (ICTs) can improve the quality of education in several ways which included, increase in learner motivation and engagement, facilitating the acquisition of basic skills and by enhancing training of teachers (Haddad & Jurich, 2002).

The Information and Communication Technology (ICT) has permeated in every walk of life, impacting the way people work, play and live. ICT has improved community life, and has given opportunities to youth in solving complex problems, creating and sharing of new ideas as well as resources with colleagues and business partners, enabling them to participate in the global economy.

While ICT has impacted contemporary business and social practices globally, most educational systems in world still engage in traditional teaching-learning practices that require learners to work individually, recall facts or do isolated activities. Thus, ICT would play an important role in reforming education and preparing students for the 21st century challenges, impacting the way learners acquire knowledge, research, communicate and collaborate with others.

It was also further given importance in the National curriculum framework 2005 (NCF 2005). The NCF has suggested the effective use of ICT in classrooms for problem solving and critical thinking skills amongst the 21st century learners.

The National Policy on Education 1986 (modified in 1992), emphasized the importance of employing educational technology to improve the quality of education. As a result it led to two major centrally sponsored schemes, namely, Educational Technology (ET) and Computer Literacy and Studies in Schools (CLASS). In 2005, the NCERT released the National Curriculum Framework for School Education which recommends the inclusion of ICT across the curriculum. Another centrally sponsored scheme – ICT in School, was launched in 2004 to give

opportunities to secondary school students to build their ICT skills and was further revised on 9th January 2010.

ICT in schools have been included in the Rashtriya Madhyamik Shiksha Abhiyan (RMSA). Today's ICT in Schools is a component of the RMSA. It was launched in March 2009 to provide opportunities to secondary stage students to build their capacity on ICT skills and make them learn through computer-aided learning processes. The National Policy on ICT (2012) initiative focused on ICT use in School Education to devise, catalyse, support and sustain ICT. It promotes the ICT enabled activities and processes in order to improve access, quality, and efficiency in the school system (Singh, 2019).

A major contribution of ICT in the field of education is easy access to learning materials/ content. With the help of ICT, students can browse through e-books, sample examination paper, previous year's paper etc. and collaborate with resource persons; mentors; experts; researchers; professionals and peers over the world. The use of ICT can enhance performance, teaching-learning, administration, and develop relevant skills in the disadvantaged communities (Bottino, 2003 and Sharma, 2003) too.

Since ICTs give both students and teachers with more opportunities in adapting to learning and teaching according to individual needs, there is an urgency to respond to this technical innovation. Shri Kofi Anan, former United Nations Secretary General, indicates that in order to attain the goal of Universal Primary Education by the year 2015, we must ensure that ICTs unlock the doors of education systems. This indication forms the basis the potential and promise that ICTs hold for education in the future. ICT can also be used integrated in teaching-learning process with a way of teaching scholastic subjects.

1.1.1. ICT in Schools – a Historical Context

The National Policy on Education 1986, as modified in 1992, emphasized the importance of employing educational technology to enhance the quality of education. And this statement led to two major centrally sponsored schemes, namely, Educational Technology (ET) and Computer Literacy and Studies in Schools (CLASS).

The CLASS project was initially introduced as a pilot with the introduction of BBC micro-computers. A total of 12,000 such computers were received and distributed by the State Governments to secondary and senior secondary schools. The project was subsequently adopted as a centrally sponsored scheme during the 8th Plan (1993–98). An annual maintenance grant was given as assistance for purchasing and maintaining BBC micros for new schools.

National Task Force on Information Technology and Software Development (IT Task Force) constituted by the Prime Minister in July, 1998 made specific recommendations on the introduction of IT in the education sector, including schools. Some of the relevant recommendations are mentioned below:

- Vidyarthi Computer Scheme, Shikshak Computer Scheme and School Computer Scheme to enable students, teachers or schools respectively, desirous of buying computers to do so under attractive financial packages.
- The concept of Smart schools where the emphasis was not only on information technology in schools, but also on the use of skills and values that would be important in the next millennium, should be started on a pilot demonstrative basis in each state.
- National Informatics Centre was identified as the nodal agency for finalizing the contract hardware supply. Due to limited use and supply of software, coverage was confined to senior secondary schools, and students of class XI and XII had to undergo a computer course module.
- Edusat was India's first dedicated education satellite launched in September, 2004 at a cost of USD 20 million. Edusat makes it possible to receive 'Direct to Home' quality broadcasts of educational programs using any television set with a low-cost receiver.
- NCERT brought out the National Curriculum Framework (2005) which recommends the inclusion of ICT across the curriculum. It was also realized that its success depended on the professional development of teachers.

1.1.2. ICT in School Education - National Policy

The Department of School Education & Literacy (D/SE&L), Ministry of Human Resource Development (MHRD), Government of India along with Global e-Schools and Communities Initiative (GeSCI) tried to formulate the 'National Policy on ICT in School Education' to address the needs and challenges of teaching and learning in the 21st century using modern technology tools. The MHRD initiated the policy formulation process on 'Building a National policy on ICT in School Education', and successfully got a milestone.

A committee was formed to draft the policy on the usage of ICT in School Education. A draft policy has been framed, and aims at using ICT for preparing youth to compete globally and participate creatively in the establishment, sustenance and growth of a knowledge society. The draft policy was approved last year by the Central Advisory Board of Education.

1.1.3. ICT in Schools, 2004 – Government of India

The centrally sponsored scheme – Information and Communication Technology in Schools, 2004 was launched to give opportunities to secondary school students to build their ICT skills. The scheme is an important catalyst to bridge the digital gap amongst students from different socio-economic and geographical backgrounds. This scheme formed supporting hand for the establishment of computer labs. It was further revised on 9th January, 2010 to include the following aspects:

- Expansion with emphasis on quality and equity - there was a need to further expand the outreach of the scheme to cover educationally backward blocks and areas with concentration of SC, ST, minority and weaker sections. Along with it, government needed to ensure dependable power supply connectivity.

- Demonstration effect- Smart schools were to be set up at district level to serve as demonstration models for neighbouring schools.
- Teacher engagement and better in-service and pre-service training - a trained technology coordinator or ICT teacher was required for each school and pre-service as well as in-service training of all teachers in effective use of ICT in teaching and learning process.
- Development of e-content - there is a need to develop and use appropriate e-content to enhance comprehension levels of children in different subjects.
- Monitoring and management a strong monitoring mechanism needs to be instituted at all levels to ensure optimal delivery of set targets.

1.1.4. ICT is an integral part of modern life

It allows us instant access to facts, materials and services that could not have been imagined of a few years ago. ICT brings to all in education the 3 'Rs' – Raising levels of accomplishment for all, Reducing exclusion and Reducing the workload on teachers. Recognizing its ability and the benefits that can accrue from it, those responsible for policy making have rolled out many kinds of policy frameworks to be adopted by state education authorities where ICT forms the basis of implementation since mid-80s.

Government of India has proclaimed 2010-2020 as the decade of innovation. Foundation of the skills leading to innovation is laid at school level. Though computers came to Indian classrooms in the year 1984-85, the level of adoption of modern technology in the teaching and learning process has been limited and uneven. In the Indian context, ICT also helps education to move away from centralized approach to a multi-centric participation in content generation and dissemination process (NCF, 2005).

The Department of School Education & Literacy, Ministry of Human Resource Development (MHRD), Government of India is tasked with the overall responsibility of guiding the implementation of ICT. It provides funding to the Central Institute of Education Technology (CIET) and State Institute of Education Technology (SIET) on a 75:25 basis. North Eastern states will reserve funding from the Central Government on a 90:10 basis. The grant of Rs 6.4 lakh (non-recurring) and Rs 2.7 lakh (recurring) per school is given under the scheme.

1.2. Rationale of the Study:

It is very important and also necessary for studying the usage and actual access of ICT at secondary level of education. Because during the past few years, Information and Communication Technology (ICT) has changed our daily activities in many ways. The ICT has revolutionized teaching–learning process. One of the goals for integrating ICTs in education is to enhance teaching-learning practices there by improving quality of education. Technology saves time and gives students access to powerful new ways to explore concepts at a depth that has not been possible in the past.

The growth of these communication and computer systems, their ease of use, the power and diversity of information transfer allow teachers and students to have access to a world beyond the classroom also interact with each other over a world geographic distance in a meaningful way to achieve the learning objectives.

ICT helps the learner to share learning resources and spaces, promote learner centred and collaborative learning principles and enhance critical thinking, creative thinking and problem solving skills.

1.3. Statement of the Problem:

A study of the actual access and usage of Information and Communication Technology at secondary level of education.

1.4. Objectives of the Study:

The study was under taken with the following objectives

1. To study the actual access and usage of ICT by teachers and students in secondary schools.

2. To compare the ICT usage by teachers and students in rural and urban areas.

1.5. Research Questions:

1. Will the teachers and students actually access and use the ICT at secondary level?
2. How ICT is used between teachers and students of rural and urban areas?

1.6. Operational Definitions:

ICT: Information and Communication Technology (ICT) in education is the mode of education that use information and communications technology to support, enhance, and optimize the delivery of information.

Secondary Level Education: In India it begins after eight years of elementary education and is divided into two years of secondary education (classes IX & X) and two years of senior secondary education (classes XI and XII).

1.7. Delimitations of the Study:

The study was subjected to following limitations:

- The study has been conducted in 10 schools of the Ganjam district of Odisha and confined to three blocks of the district.
- The study was confined to secondary level of education (class ix & class x).
- The sample of the study was included 20 teachers, 60 students, and 8 principals.