

# ICT IN SCHOOL EDUCATION

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## INTRODUCTION:

Information and Communication Technology is the buzzword today everywhere as the world has entered into an information and communication age. Whether it is a developed or developing country, north or south, east or west, ICT is omnipresent. It has helped in all walks of life in one-way or other. The twentieth century witnessed the rapidly accelerating advent of Information Technology (IT). The progress has been truly amazing. About 40 years, electronic communications and news media have become commonplace and indispensable. Computers becoming increasingly fast, powerful, small and cheap, so that now there is scarcely a human activity in which they are not to be found, bearing an increasing share of the burden of repetitive information progressing activities.

Today the information society is passing through various new challenges and opportunities, such as, information professional skills, information management skills and up-to-date subject knowledge. The emerging technologies supporting computers and tele-communication systems provide new dimensions in business, industries and education in a productive way.

The implementation of Information and Communication Technology into education is an issue of great concern. ICT implementation is not a product; rather, it is a process. The success of Information and Communication Technology implementation in education means implementing ICT “effectively and efficiently in all dimension of the process” (Yalin, et al., 2007). ICT has had a vital role in enhancing the quality of education. The role of ICT is to serve education in particular, by helping students to learn and teachers to perform their teaching profession more effectively (Goktas and Yildirim, 2003). There has been considerable interest in the use of information and communication technologies in the education sector worldwide. ICT will largely contribute to achieving universal education through the delivery of education and the training of teachers (UNESCO, 2005).

The use of Information and Communication Technology has fundamentally changed the education industry and the way knowledge is being transmitted from teachers to the students (Haghighi and Eskandari 2012). Schools cannot prepare students to function within society if the curriculum fails to cover the equipment and skills they will need to use in the real world. Thus curriculum should be designed in a way as to incorporate all necessary for inculcating the technological awareness and innovative skills in the students. The academic achievement of students or the overall educational system cannot be improved without integrating technology in it (Donahoo & Whitney 2006). Students must be able to use technology if they are going to live and work successfully in an increasingly complex and information-driven society (Miller 2007). Students must be technology literate in order to excel in future jobs and to be productive citizens (Griffin 2003). Computers and the Internet, creates new opportunities for teaching and learning. As Hew and Brush (2007) stated, computers and Internet technologies can help students improve their scores on standardized tests. An effective use of Information and Communication Technology in schools can have an immediate positive impact on the schools' learning environments. Technology cannot change education until and unless it is stitched with and incorporated into learning environment (Muir-Herzig 2004). The accessibility and use of Information and Communication Technology is not sufficient to enhance teaching and learning but quality of both of them and achievement can be increased. Information and communication Technology enables the students to find out the current information. It facilitates them to apply their academic expertise for solving the real life problems. Conventional educational practices do not provide students with all the required skills necessary for success in today's world (Miller 2007). The success of technology depends up on the way it is being used in the classroom.

The overall school administration can be improved by developing and inculcating technological skills,

technological expertise and positive attitude towards the innovations of technology in the school administrators and teachers. Good school administration and management can improve the quality of education in a better way. However, the problems of educational administration in the information age cannot be ignored. The need for creative, divergent and unexpected solutions to school situations and problems require a challenging approach to the field of educational management. There is global revolution in education and it is need of the hour to improve the school system, to develop technological awareness among teachers and to develop the innovative technological skills in them so the pursuits of education can be easily and effectively achieved.

### **POLICY LEVEL FRAMEWORK FOR THE USE OF ICT IN SCHOOL EDUCATION IN INDIA:**

Over the last few decades, learner who have been brought up in a technologically rich environment can be termed as digital natives or iLearners. Such learners have been profoundly influenced by the innovative interactive and individual technologies such as ipods, iphones, ipads, wii games consoles and Wi-Fi Internet access. In contrast, many of today's educators and teachers were largely brought up in a less technologically advanced world. Thus there is a need of a policy level framework for the use of Information and Communication Technology in school education.

A logical policy level framework for the use of Information and Communication Technologies in school education in India was recently initiated through a stakeholder dialogue on formulating a draft national policy for ICT in education. This dialogue was led by the Ministry of human Resource Development, Global e-school Initiative (GeSCI), and Centre for Science, Development and Media Studies (CSDMS). Based on the feedback received after the dialogue, a draft "National Policy on ICT in School Education" has been made available in print. This draft policy document proposed to implement a programme on ICT literacy for all secondary schools in the whole country. It also recommends that all states will develop an ICT literacy curriculum to instill basic as well as advanced ICT skills among secondary school students. At the higher secondary stage, the draft policy states that ICT related elective courses will be offered in schools which will be taught by a postgraduate teacher with appropriate qualifications. The draft policy states that

competent teachers will be encouraged and given the resources to adopt ICT enabled practices in teaching-learning processes. For this purpose, the traditional classrooms will be replaced with smart classrooms. The draft policy also states that each secondary school will be equipped with at least one computer lab and a minimum of a 10:1 student computer ratio will be maintained.

### **INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) IN SCHOOL SCHEME:**

The policy of secondary education aims at providing education of quality available, accessible and affordable to all youths in the age group of 14-18. Article 5, 13 and 14 of the International Convention on Economic, Social and Cultural Rights (1966) pertinently states that "Secondary education in its different forms, including technical and vocational secondary education, shall be made generally available and accessible to all by every appropriate means". At present several centrally sponsored schemes are targeted at secondary stage. The ICT in schools is one of the schemes targeted and implemented at secondary stage.

The National Policy on Education 1986, as modified in 1992, emphasized the importance of educational technology for improving the quality of education. The policy statement led to the formulation of two centrally sponsored schemes Educational Technology (ET) and Computer Literacy and Studies in Schools (CLASS). CLASS as a pilot project was initiated in 1984-85 in 248 selected secondary/ higher secondary schools in collaboration with the Department of Electronics and Department of Education. The main aim was to acquaint students and teachers with the range of computer applications and its potential as a learning medium. In pursuance of the objectives laid down in the National Policy on Education, an expanded programme was prepared in 1987-88 to cover 13,000 higher secondary school all over the country. However, due to scarcity of funds and other administrative reasons, the proposal to cover 13,000 schools was not finalized. The Educational Technology and Computer Literacy and Studies in Schools (CLASS) schemes led to the development of a comprehensive centrally sponsored scheme namely, Information and Communication Technology@ Schools in 2004. The remarkable role of ICT in education has also been high lightened in the National Curriculum Framework 2005.

The ICT in school Scheme was launched on 15<sup>th</sup> December 2004, and revised in 2010, to promote computer education, both ICT based literacy and

computer enabled learning, and usage of ICT in teaching in Government and Government aided Secondary and Senior Secondary schools in India. The ICT in schools scheme is expected to bring innovation in teaching learning process. The guideline of the revised ICT in schools scheme has been circulated to states and Union Territories in July 2010. The revised ICT scheme proposed to increase outreach to all Government and Government aided secondary and higher secondary schools, strengthen teacher capacity, provision of broadband connectivity and development of e-content.

### **OBJECTIVES OF ICT SCHEME IN SCHOOLS:**

- 1) To promote computer enabled learning and the usage of ICT in teaching in higher secondary and secondary schools in rural areas.
- 2) To spread the availability of access devices, internet connectivity and promotion of ICT literacy.
- 3) Development of a e-content, mainly through Central Institute of Education Technologies (CIET), six State Institutes of Education Technologies (SIETs) and 5 regional Institute of Education (RIEs), and also through outsourcing.
- 4) To use ICT TOOLS for the enrichment of existing curriculum and pedagogy.
- 5) To inculcate ICT skills in the students that will enable them to adjust in the digital world and to pursue higher studies and to get lucrative jobs.
- 6) To use ICT tools for providing effective environment for children with special needs.
- 7) To inculcate the habit of self-learning in the students by employing ICT tools in the classrooms. This shall transform the classroom environment from teacher-centric to student-centric.
- 8) To promote the use of ICT tools in distance education.

### **COMPONENTS OF ICT SCHEME IN SCHOOLS:**

The scheme of ICT has four components:

- 1) Partnership between Central Government and State Government/Union Territories Administrations for providing computer aided education to secondary and higher secondary Government and Government aided schools.
- 2) Establishment of smart schools which shall be technology demonstrators.
- 3) Universalization of Computer literacy through the network of Kendriya Vidyalayas and

Navodaya Vidyalayas to the neighboring schools.

- 4) The fourth component is related to State Institutes of Education Technologies (SIETs) which are concerned with the development of e-content.

### **FINANCIAL ASSISTANCE AND COST NORMS OF ICT SCHEME IN SCHOOLS:**

The financial is given to the states for the procurement of computers, educational software, and training of teachers, setting up of smart schools, development of e-content and internet connectivity. It is given to the states on the basis of the approval accorded by Project Monitoring and Evaluation Group chaired by secretary school education and literacy. The project cost is shared between Centre and States in the ratio of 75:25 except for North East states where it is 90:10.

### **MONITORING AND EVALUATION OF IMPLEMENTATION OF ICT SCHEME:**

The project Monitoring and Evaluation Group headed by the Secretary of secondary and higher education includes a representative of Ministry of Information Technology and representatives of organizations engaged in the field of computer education functions as the Monitoring Committee for the implementation of ICT at the nation level. The evaluation of the progress of ICT scheme is done at the state level by a separate unit created for the purpose. Third party evaluation of the scheme has been taken up by the States and Union territories. The states have also been advised to weigh up the scheme through external organizations like Indian Institute of Technologies(IITs), Indian Institute of Information Technologies(IIITs) and National Institute of Technologies(NITs) etc.

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