

Teacher Education and usage of ICT

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ABSTRACT

ICT is a scientific, technological and engineering discipline and management technique used in handling information, its application and association with social, economic and cultural matters (UNESCO, 2002). In modern science and technological society's education demands more knowledge of teacher regarding ICT and skills to use ICT in teaching - learning process. The knowledge of ICT also required for pre-service teacher during their training programme, because this integrated technological knowledge helps a prospective teacher to know the world of technology in a better way by which it can be applied in future for the betterment of the students. Now - a- days ICT's are transforming schools and classrooms a new look by bringing in new curriculum based on real world problems, projects, providing tools for enhancing learning, providing teachers and students more facilities and opportunities for feedback. ICT also helps teachers, students and parents to come together. Continuous and Comprehensive Evaluation (CCE) helps students as well as teachers to use more technology for making teaching learning more attractive for the betterment of our future generation. Teachers must know the use of ICT in their subject areas to help the learners for learning more effectively.

Keywords: ICT, students, Teacher education.

During last decade science and technology have made identical change in the world. As we know that our required information can be accessed from any part of the world with the help of Information Communication Technology. ICT is a new medium, a new way of representing, Communicating and working with information (kurkreti & Saxena, 2004)^[5]. ICT has emerged as one of the most important aspects of human life. Without it we cannot think we may become paralyzed. More or less every human activity involves the use of ICT, may be visiting a department store, booking a railway or flight tickets , paying bills , getting medical checkup done, gathering data , order of a book in flip Kart, writing an application or even chatting with friends. In this fast and mechanical era, students and teachers both have no time to interact with one another. In these circumstances students become unidirectional and feel restless. Internet apparently provides a solution of these problems (Kant, 2009)^[4]. The educational Institutions, both the academic staff and students use internet equally, but for different motives.

Information and Communication Technology (ICT) is an umbrella term that includes all technologies for the manipulation and communication of information. It considers all the uses of digital technology that already exists to help individuals, business and organization. ICT is concern with the storage, retrieval, manipulation or receipt of digital data. *ICT is a "diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage*

information." More specifically, it can be defined as the use of all conceivable digital media in managing and processing information. There is a growing trend in education across all sectors to move from a focus on teaching to that of learning. Information and Communication technology and the empowerment of teachers to utilize this have been acknowledged as two important aspects in teaching and learning (Sanyal, 2001) [1].

When we talk of ICTs, we refer not only to the latest computer and internet based technologies, but also to simple audio visual aids such as the transparency and slides, tape and cassette recorders and radio; video cassettes and television; and film. These older and more familiar technologies are referred to under the collective heading of "analogue media" while the newer computer and internet based technologies are called the "digital media". ICT offers the means to acquire that power. It provides "Anytime, anywhere" access to reliable information when used appropriately (Capper, 2001) [3]. It provides access to education; strengthen the relevance of education to the increasingly digital workplace and raise education quality by among others , helping to make teaching and learning into an engaging , active process connected to real life. The effective integration of ICT into the educational system is a complex, multi faceted process that involves not just technology but also curriculum and pedagogy and long term financing. Yet today, in general, schools don't get competent teachers to teach the quality of shaping the destiny of India in their classrooms. Under such circumstances, ICT can play an important role in the preparation of quality teachers.

ICT AND EDUCATION

For developing countries ICTs have the potential for increasing access to and improving the relevance and quality of education. Research into the use of technology in classrooms demonstrates that technology plays a critical role in student learning (Russel, Lucas, & McRobbie, 2003) [7]. Some of the large scale studies have shown the significant increase in achievement scores of students using technology as a learning tool (e.g. Lei& Zhao, 2007) [6]. For example, project-based science curricula that include learning technologies provide an opportunity for engage in inquiry (Hug, Krajcik, & Marx, 2005) [2]. Significance of ICT in education are discussed below:

Access to variety of Learning Resources:

In the era of technology IT aids plenty of resources to enhance the teaching skills and learning ability. With the ability of IT now it is easy to provide audio visual education. The learning resources are being widens and widen. Now with this vivid and vast technique as part of the IT curriculum, learners are encouraged to regard computers as tools to be used in all aspects of their studies.

Immediacy to Information:

It has provided immediacy to education. Now in the year of computers and web networks the pace of imparting knowledge is very fast and one can be educated. One can study whenever he wills irrespective of whether it is day or night and irrespective of being in India or in US because of the boon in IT.

Collaborative Learning:

Now IT has made it easy to study as well as teach in group or in clusters. With online we can be unite together to do the desired task. Efficient postal systems, the telephone (fixed and mobile) and various recording and playback systems based on computer technology all have a part to play in educational broadcasting in the new millennium.

Multimedia Approach to Education:

Audio – Visual Education planning, preparation and use of devices and materials that involve sight, sound or both for educational purposes. Among the devices used are still and motion pictures, filmstrips, television, computers and video – discs. The growth of audio – visual education has reflected developments in both technology and learning theory.

Authentic and Up-to-Date Information:

The information and date which are available on the net is purely correct and up to date. Internet, a collection of computer networks that operate to common standard and enable the computers and programs they run to communicate directly provides true and correct information.

Online Library:

Internets support thousands of different kinds of operational and experimental services one of which is online library. We can get plenty of data on this online library.

Better Access to children with Disabilities:

Information technology has brought drastic changes in the life of disabled children. IT provides various software and technique to educate these poor peoples.

The integration of information technology in teaching is a central matter in ensuring quality in the educational system. There are two equally important reasons for integrating information technology in teaching. Pupils must become familiar with the use of information technology, since all jobs in society of the future will be dependent on it and information technology must be used in teaching in order to improve its quality and make it more effective.

ICT AS PEDADOGICAL APPROACH IN TEACHER EDUCATION PROGRAMME

Modern teacher education is quite advanced than traditional one. In the recent scenario, new innovations and techniques are adopted so that traditional methods and techniques are replaced, modified and supplemented. ICT as pedagogical approach in teacher education programme is introduced with respect to - (a) Aims of education (b) Curriculum (c) Role of teacher (d) Text books (e) Functions of education (f) Discipline (g) Methods of teaching (h) Evaluation process.

ICT aims blending of traditional as well as modern techniques of teaching learning process. It does not aim at providing information but the matter is that it should aim at attaining new skills to solve the problems which may disturb or imbalance the modern structure. For this purpose, teacher should develop such skills and behavior which may not disturb the implementation of new innovations. To

attain this objective, teacher should also be interested and be ready for professional development. This development may be obtained through conferences, workshops, courses, classes, action researches as well as by distance learning also. Indeed, society's needs and challenges are changing with respect to time. Modern era is totally attached with new technologies. So, teachers must also cope up such threats by providing such knowledge through the methods which are integrated with ICT.

CONCLUSION

Knowledge is disseminated through the education system and it is important that we should prepare ourselves to respond to the enormous challenges of era. Dr. Manmohan Singh, former Prime Minister of India recently said, "The time has come to create a second wave of institution building and excellence in the field of education, research and capacity building so that we are better prepared for twenty century." In the recent years, we have witnessed significant changes in the provisions and use of new media with advanced technology in education; use of telecommunication media, internet and web – based systems and emergence of m-learning provide learners a flexible learning environment with options to study from any place on the globe to suit their individual requirements. Teacher's role in education system is quite challenging. Recent trends in modern education are the integration of ICT with teaching so as to make it more effective. But the question arises whether new technologies are producing good and social citizens with moral values. Modern instructional system is stressing on practical knowledge, scientific and professional attitude. Modern time demands that there should be blending of old and new techniques of learning having the spirit of human welfare.

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