Research Paper   **Education**

Present Scenario Of ICT In Teacher Education

* Samson. R. Victor ** Dr. S. Srikanta Swamy

* Asst. Professor, Christ University, Bangalore

** Additional Director, Christ University, Bangalore

ABSTRACT

Over the past few years the growth of the computer industry has been quiet remarkable and today it is the fastest growing industry in our economy.

We see the use of computers all around us. One of the effective use of computers is in the teaching-learning process. The information Technology (IT) action plan (1998) adopted by Government of India took the first comprehensive view of computers in school education to create an IT literate and IT skilled society. These initial encouragements by different organization lead a foundation for better growth of Information and Communication Technology. The programme of teacher education relates closely to the ICT curriculum, and particularly to the stage of development that schools have reached with respect to ICT. In this view, this paper details the present scenario of ICT in Teacher Education programmes and NCFTE's views and objectives on ICT applications. The authors have suggested how ICT could be effectively used in the teacher education programmes so as to enhance the competency of the student teachers.

Key word : ICT, Teacher education & NCFTE

Introduction

Computer is an electronic device that has the capacity to store, retrieve and process both qualitative and quantitative information fast and accurately. Over the past few years the growth of the computer industry has been quiet remarkable and today it is the fastest growing industry in our economy. The use of computers is not restricted only to office desktops or laptops. We see the use of computers all around us. Computers have made our lives simple and very convenient by catering to our needs at a click of the mouse, we use computers practically for every activity in our lives. Computers are being used in most of the appliances or gazettes that we use in our day to day living, thereby making it the most important part of our lives. Education system is not an exception to the same.

Computer in Education

Initially computers were never developed for improving quality of teaching learning process. But later technical experts, came out with the effective use of computers for teaching purpose. It gave new birth to Computer Assisted Instruction (CAI), Computer Managed Instruction (CMI), Computer Based Instruction (CBI), etc. People started developing CAI for teaching different subjects at school as well as at higher education level. Computer Assisted Instruction (CAI) was significantly superior to lecture method or traditional method in teaching different subjects. However, the use of CAI was not popular initially, because it was not based on psychological theories. Later it was adapted by many classroom teachers to teach their subjects effectively.

Educational Technology

Educational technology is the incorporation of Internet and other information technologies into the learning experience. According to Council for Educational Technology, " Educational technology is the development, application and evaluation of systems, techniques and aids to improve the process of human learning."

Education Technology was basically started in US and UK but, in the year 1975-76, India emerged as a global player in education technology, when the concept of education through satellite was effectively demonstrated for first time through the Satellite Instructional Television Experiment (SITE). The SITE conducted using the American Application Technology Satellite (ATS-6). Later with the commissioning of the INSAT in space in 1983, a variety of educational programmes were being telecast. With the success of the INSAT based educational services, a need was felt to launch a satellite dedicated for educational services and ISRO conceived the EDUSAT project in October 2002. EDUSAT - a satellite exclusively dedicated to education, was successfully launched on ISRO's board.

EDUSAT is used to share the available expertise through modular programmes. This will be done by networking institutions, creation of virtual laboratories, creation of database, access to expert lectures and technological developments in Industries and Research organizations etc.

Recognizing the importance of Teacher Training Institutes and the crucial role of teachers in bringing an awakening and skill development among the target groups (students, community leaders and school teachers), it was decided to put EDUSAT to use in different spheres of Teacher Education.

It is expected to enhance the communication and presentation skills of the teachers, to motivate them through dissemination of best practices in the field, make available research material online and finally create an IT culture across the nation by introducing and developing IT literacy courses for the teachers.

The Information Technology (IT) Action Plan (1998) adopted by Government of India took the first comprehensive view of computer in school education to create an IT literate and IT skilled society. These initial actions by different organizations led to a foundation for better growth of Information and Communication Technology.

Information and Communication Technology (ICT)

Networking of computers gave birth to information technology (IT). UNESCO considered Information Technology as "Scientific, technological, engineering and management techniques used in information handling and processing and their application". Sansanwal (2000) defined "IT as the use of information i.e storage, retrieval, processing, communication, diffusion and sharing of information for social, economical and cultural upliftment". This information technology gave birth to the development of websites, which has been helping in shrinking the world into a global village.

Further, the addition of communication media has enlightened information technology by enriching the textual form through audio and viisual media. Thus, the new flood of information communication technology was born. The new digital ICT is not single technology but combinations of hardware, software, media and delivery systems. They differ in several important dimensions from older technologies. Educators are finding powerful new ways to integrate digital ICT into curricula and thus ICT equipments and internet connectivity is much more widespread in schools around the world.

For the last two decades, special attention has been given to prepare a new generation of teachers who are able to apply a wide spectrum of advanced information and communication technologies to meet the diverse learning needs of their student's worldwide (British Columbia Ministry of Education, 1999).

Information and Communication Technology (ICT) has become, within a very short time, one of the basic building blocks of modern society. Many countries now regard understanding ICT and mastering the basic skills & concepts of ICT as a part of the core of education, along with reading, writing and numeracy.

ICT in Teacher Education

The National Centre for Technology in Education (NCTE-2000) states that ICT, being an interdisciplinary domain focuses on providing students with the tools to transform their learning and to enrich their learning environment. The knowledge, skills and behaviors identified for this domain enable students to: develop thinking and learning skills that produce creative and innovative insights; develop more productive ways of working and solving problems individually and collaboratively; create information products that demonstrate their understanding of concepts, issues, relationships and processes; express themselves in contemporary and socially relevant ways; communicate locally and globally to solve problems; share knowledge and understand the implications of the use of ICT and their social and ethical responsibilities as uses of ICT.

Learning in this domain enables student to focus on the task to be accomplished rather on the technology they are using to do the work. Through the selection and application of appropriate equipments, techniques and procedures, they process data and information skillfully to create information products that are meaningful for themselves and their audience. These products effectively demonstrate their knowledge and understanding of the concepts, issues, relationships and processes that are real concerns of teaching-learning process.

The programme of teacher education relates closely to the ICT curriculum, and particularly to the stage of development that schools have reached with respect to ICT.

Teacher education programmes have the critical role to provide the necessary leadership in adapting pre-service and in-service teacher education to deal with the current demands of society and economy. They need to model the new pedagogies and tools for learning with the aim of enhancing the teaching-learning process. Moreover, teacher education programmes must also give guidance in determining how the new technologies can best be used in the context of the culture, needs, and economic conditions of their country.

According to Utpal Mallik (2007) Pre-service programmes in teacher training colleges need more attention than they presently getting. The low quality of ICT integration in schools is the result of low quality of teachers' professional preparation. Most pre-service ICT programmes are heavy on 'teaching the tools' and light on using 'the tools to teach'. That's training versus education. To make matters worse, would-be-teachers do not get any amount of ICT built into their non-ICT courses or in classrooms where they get their field training. Today's students live in a global, knowledge-based age. They deserve teachers whose practice embraces the best that technology can bring to learning

In the teacher education sector, curriculum review efforts are geared towards modernization, including the incorporation of important ICT components. However, even the reviewed curricula tend to treat ICT as a subject rather than as an application tool that can be used in all other subjects, in teaching and learning. Very recent discourse indicates that future curriculum reviews may consider a fully fledged ICT mainstreaming process.

Present scenario of ICT in Teacher Education

The unpredictable demand for teachers has provided a platform for unprecedented expansion of teacher education institution and programmes during the past few years. This contributed to a large scale mushrooming of substandard teacher education institutions. Presently there are around 400 Teacher Training institutions in Karnataka itself, which is just an example for abnormal growth.

The study conducted by Dr. S. N Prasad (2005) to analyze pre service teacher training initiatives and developments revealed that there is a strong government commitment and support towards the implementation of ICT. But, there were very less infrastructure and human resource facilities. In addition to this the study also revealed that teacher educators were treating the tools of ICT as novelty rather than necessity.

Contradictory to this, Kalpana Mathur (2005) expressed the importance of ICT learning to teachers and is of the opinion that, teacher educators require reorientation towards use of ICT in their teaching learning process, so that the these teacher educators could generate a great deal of skill in implementing ICT.

As per teacher education curriculum frame work by NCF (2005) teacher education institutions are expected to equip future teachers with latest methods, techniques and strategies for imparting instruction, including the use of technological equipments. Where as most of the institutions either do not have such facilities or do not have adequate trained teacher educators to use technological equipments for adequate benefit of teacher trainees.

ICT in the view of NCFTE

According to NCFTE (2009) "with the onset and proliferation of information and communication technology (ICT), there is a growing demand that it be included in school education. It has become more of a fashion statement to have computers of multimedia in schools, the result being that in spite of its potential to make learning liberating; its implementation is often not more than cosmetic. It is also often touted as a panacea for shortage of teachers. These are detrimental to the learning of the child. Teacher education needs to orient and sensitize the teacher to distinguish between critically useful, developmentally appropriate and the detrimental use of ICT. In a way, ICT can be imaginatively drawn upon for professional development and academic support of the pre-service and in-service teachers". To sustain these ICT requirements NCFTE has emphasized on the following

- Need for professional orientation/ training programmes related to ICT.
- Implementing ICT in B.Ed., curriculum through practical activity and workshop mode.
- The evaluation process by assessing the performance of teacher-trainees through five point rating scale.

Suggestions

The present scenario of ICT in teacher education institution clearly states that, the success of the ICT implementation in the B.Ed., programme mainly depends on the skill of teacher educators in using and imparting ICT knowledge. In this view the following suggestions will help in realizing the objectives stated in NCFTE-2009 ("Towards preparing professional," 2009).

- Equip the teacher training institutions with required ICT facilities.
- By providing ample time for practical classes for teacher trainees.
- By integrating ICT with general school subjects in appropriate way.
- By organizing compulsory training course for teacher educators.
- Enhancing collaboration with various ICT training organizations like INTEL.
- By organizing workshops, seminars and conferences related to ICT.
- Preparing teacher educators to integrate ICT knowledge in the theory and practice of modern educational thoughts.
- Empowering teacher educators to inculcate ICT skill, so that they can transmit the same to their students.
- Assessing the performance of teacher trainees regarding their knowledge, understanding and application level of ICT acquired during learning.

Conclusion

Teacher educators play a major role in shaping the nations education since the entire teaching community is shaped by them. Hence, they should provide all kinds of learning environment to their students to make them effective teachers. In the present day world with the advancement of technology teacher educators and teacher education institutions should equip themselves with changing trends, specially in the implementation of ICT in the teacher education curriculum effectively.

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