



ICT in Teacher Education for Excellence

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Abstract

ICT is one of the factors changing & shaping the world very rapidly. Teacher education institutions are facing with the challenge of preparing a new generation of teachers to effectively use the new learning tools in their teaching practices. Accordingly, Teacher education institutions must include uses & applications of ICT in their programme. The curriculum must be modernized & must include the important components of ICT. Thus ICT is no substitute but a powerful tool for teachers & learners to use. ICT can become the vehicle for the journey on the path of excellence.

Key words: *ICT, teacher education, students*

Introduction

The 21st century is considered as information Technology century. ICT is becoming a part and parcel of human life. ICT is very useful in almost all areas of human life. The traditional classroom teaching – learning process cannot be totally replaced by technology. But the use of ICT is very useful for distance learning and to provide expert and trained teachers at remote and rural areas also. Effective learning is possible by five sensory means. Visualization, listening, smelling, sensing by touch and taste are used to know the facts of learning. In traditional methods of learning, information was available only by written text. Grasping knowledge only by reading has its importance, but not virtually in all means. Any picture or photograph with the written matter with again any kind of sound or music becomes

more powerful for representation. If it is further replaced with video or animated film, it becomes most effective.

It means more than one media, used for representation, becomes more powerful tool to percolate the expected information for the extreme and expected level of understanding.

ICT is one of the factors shaping and changing the world rapidly. It has also influenced the educational system all round. The world is under increasing pressure to use the ICT to teach students the knowledge and skills they need in the 21st century. According to The 1998 UNESCO world education Report, teachers and teaching in changing world, describes the radical implication ICT s have for conventional teaching and learning , It predicts the transformation of teaching learning process and the way teachers and learners gain access to knowledge and information.

Need for implementation of ICT in Education:

1. Education is the life long process. In this process it is the duty of education to implement the modern principles in the teaching – learning process.
2. To increase a variety of modern educational methods.
3. To systematize collection and dissemination of educational information.
4. To provide equal opportunity to obtain education and information.
5. To promote technology literacy of all students.
6. These needs will be facilitated only by the implementation of ICT effectively.

Usefulness of ICT in teacher education

Teacher education institutions are facing with the challenge of preparing a new generation of teachers to effectively use the new learning tools in their teaching practices. Form many teachers' education programme. this daunting task requires the acquisition of new resources, expertise and careful planning. In approaching this task it is helpful to understand following points:

1. The stages of teacher development and the levels of adoption of ICT by teachers.
2. The impact of technology on global society and the implications of education.
3. The extensive knowledge that has been generated about how people learn and what this means for creating more effective and engaging student centered learning environment.

4. The critical importance of context, culture, leadership and vision, lifelong learning and the change process in planning for the integration of technology into teacher education.
5. The ICT competencies required of teachers related to content, pedagogy, technical issues, social issues, collaboration and networking.
6. The importance of developing standards to guide implementation of ICT in teacher education.
7. The essential condition for successful integration of ICT into Teacher education.
8. Important strategies to consider in planning of infusion of ICT in teacher education and managing the change.

This is only possible if the teachers learn the art of becoming successful teachers. From this perspective, information technology is paving its way and the student is constantly demanding innovation in learning techniques.

ICT and teacher education programme

As Carlson (2002) indicates, success in ensuring that teachers acquire the skills and knowledge they need to use technology effectively opens the door to all kinds of new educational opportunities for both teachers and students. Accordingly, teacher education institutions must include uses and applications of ICT in their programme. The fundamental aim is to give the learners the opportunity to become critical thinkers, problem solvers, information literate citizens, knowledge managers and finally team members who are proficient in collaborating with others. The curriculum must be modernized and must include the important components of ICT.

Thrust areas of teacher Education

Teacher education curricula needs to be inter – locked, interwoven and integrated so that it matches with the trends and challenges that the teacher education is facing today. Some of these major thrust areas include.

1. Inclusion of ICT in Teacher Education

On examining the B.Ed. curriculum of NCTE and UGC, it is found that both the bodies have recommended removal of deadwood from the curriculum and incorporation of computer education. There is need for re-examination of the existing curriculum for the

purpose of reshaping and making it user – friendly. Inclusion information communication technology in the existing B.Ed. curriculum is very important and its effective integration into the main stream is absolutely essential.

2. Skilled Educators :

The educators who work with teacher candidates must be skilled in the use of technology for learning. They must be able to apply technology in the presentation and administration of their course work and facilitate the appropriate use of technology by their teacher candidate. The teacher educator should model and teach techniques for managing technology in the classroom and for communicating outside the classroom through electronic means.

3. Professional Development :

Even in the context in which professional development is extensive, it is important to provide consistency access to professional development as the technology consistently changes. Professional development is not a one – time event, it should be founded on the needs of the faculty members and sustained through coaching and periodic updates.

4. Technical Assistance:

Educators need technical assistance to use and maintain technology. Timely technical assistance is imperative for faculty and teacher trainees to feel confident that they can use technology in their teaching and learning. There are many ways in which technical assistance can be obtained including asking community members or student assistants to maintain a help desk. It is a critical factor for success in implementing ICT. Educators must be knowledgeable in the content, standards and teaching methodologies of their discipline. Teacher candidates must learn to use technology to support ICT in teacher development.

5. Benchmarks and self – assessment tools:

In planning the integration of ICT into teacher education, it is important for teacher education institutions to understand the knowledge and skills necessary for teachers to effectively use ICT in their instructions. They must also understand the institutions level of readiness to integrate technology into teacher education curriculum. To accomplish these

goals, teacher education institutions need the benchmarks, standards and guidelines. It is important that they have access; tools that help them access their level of readiness and progress in infusing ICT into teacher education program.

6. Pedagogy :

The most important aspects of infusing technology in the curriculum of teacher education is pedagogy. When implementing the pedagogical competencies for infusing technology the local contexts and individual approach of the teacher linked with that of their subject discipline must be paramount. Teachers move through stages as they adopt ICT.

As teachers' pedagogical practices with new technologies continue to develop and organizational support and access to ICT grows, it becomes possible to move beyond the adaptation of ICT applications that fit with existing practice. Transformation of the educational process will start to emerge and move towards more students centered learning environment. ICT in teacher education is essential and it must be met for successful technology integration and provide guidelines for the development of strategic planning process.

Limitations:

Technology is being used in every aspect of education, whether it is medical, engineering or management. Hence it is the duty of teacher education to implement ICT in their curriculum. At the same time we have to check whether the institutions have adequate ICT facilities. Most of our institutions are still using the traditional methods like chalk and talk method. Computers, laboratories and ICT laboratories are more for exhibition than for education.

Suggested Strategies:

The needed Strategies of ICT in Teacher Education are suggested below:

- Provide a short foundation course that focuses hands-on ICT experience as the initial stage of pre-service training.
- Provide more advanced ICT course as elective for students who need or want to develop more advanced ICT based pedagogical skills.

- Integrate ICT components into all the subject matters of areas such as Mathematics, social studies and English and so on so that student has a role model for ICT integrated teaching and learning.
- Design ICT integrated courses in such a way that student has opportunities to produce ICT based instructional material themselves and share outcomes of the course with others.

When planning ICT curriculum, ensure that it is congruent with the educational vision the culture and the context of region both logically and globally.

Conclusion: ICTs have changed the role of faculty and shrunk the whole world into a small village. Teacher Training Institutes are facing with the challenge of preparing a new generation of teachers to effectively use the new learning tools in their teaching practices. ICT in education is not transformative on its own. ICT is only a tool. Only by effective implementation it becomes useful. Transformation requires teachers who can use technology to improve student learning. The professional development of teacher educators in the area of ICT integration is essential. Unless teacher educators model effective use of technology it will not be possible to prepare a new generation of teachers who effectively use the new tools for teaching and learning. Because many studies report that it is only under the right conditions that the claimed benefits can be realized. Central to these conditions is the teacher and the way in which the teacher promotes learning through ICT. Even after using ICT the teacher is still at the heart of the process of learning. The teacher is still critical newer forms of teaching. ICT is no substitute but a powerful tool for teacher and learns to use.

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