



# ICT in Teacher Education Programme in 21<sup>st</sup> century

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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 economic, social and cultural matters (UNESCO, 2002). The introduction of information and communications technologies (ICT) in education reflects and responds to present and future needs of people functioning in an intensely challenging and changing intellectual environment. 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. ICT is no substitute but a powerful tool for teachers & learners to use. Teacher use ICT for making teaching learning process interesting and easy. 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. Information and communication technology (ICT) is a force that has changed many aspects of the way we live. ICT can become the vehicle for the journey on the path of excellence.

**Key words:** ICT, Technological, engineering, intellectual, Comprehensive Evaluation, Communication technology.

## 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. Every aspects of life are related to science and technology. Huge flow of information is emerging in all fields throughout the world. Now information and technology is popularly using in educational field for making teaching learning process successful and interesting for students and teacher both. In 1998, UNESCO World Education report refers about student and teachers must have sufficient access to improve digital technology and the internet in their classroom, schools, teacher educational institutions. Teachers are at the core of any living society. Technologies play an important role in training programme of teachers. ICT is very important for Pre- service teacher education programme in the 21st Century. Without proper knowledge of ICT teacher cannot perform in his/her class room and it could not be said to be a complete one. 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.

### **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 systematize collection and dissemination of educational information
3. To increase a variety of modern educational methods
4. To promote technology literacy of all students
5. These needs will be facilitated only by the implementation of ICT effectively.

### **Different Strategies for applying ICT in Teacher Education:**

1. Providing adequate infrastructure and technical support.
2. Applying new Pre-service teacher Education curriculum.
3. Applying ICT in all subjects
4. By using application software, using multimedia, Internet e-mail, communities, understanding system software.

### **Role of ICT in 21st Century's Teacher Education:**

- ICT helps teachers to interact with students.
- It also helps in effective use of ICT software and hardware for teaching – learning process.
- It helps in improve Teaching skill, helps in innovative Teaching.
- It helps them in preparation their teaching, provide feedback.
- It helps in effectiveness of classroom.
- ICT also helps teachers to access with institutions and Universities, NCERT, NAAC NCTE and UGC etc.
- ICT is store house of educational institution because all educational information can safely store through ICT.
- It removes the traditional method of teaching and prepare teacher to apply modern method of teaching.
- ICT helps Teacher to pass information to students within a very little time.
- ICT helps Teacher to motivate students and growing interest in learning.

### **Why do we use ICT in teacher Education?**

The classroom is now changing its look from the traditional one i. e. from one way to two way communication. Now teachers as well as students participate in classroom discussion. So the teacher should prepare to cope up with different technology for using them in the classroom for making teaching learning interested. ICT has enabled better and swifter communication; presentation of ideas more effective and relevant way. It is an effective tool for information acquiring-thus students are encouraged to look for information from multiple sources and they are now more informed then before.

### **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. Skilled Educators :**

The educators who work with teacher candidates must be skilled in the use of technology for learning. The teacher educator should model and teach techniques for managing technology in the classroom and for communicating outside the classroom through electronic means.

#### **2. Professional Development :**

Even in the context in which professional development is extensive, it is important to provide consistence excess to professional development as the technology consistently changes. Professional development is not a one – time

event, it should be found on the needs of the faculty members and sustained through coaching and periodic updates.

### **3. 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. 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.

### **4. Pedagogy :**

The most important aspects of infusing technology in the curriculum of teacher education is pedagogy. 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. 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. 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 more advanced ICT course as elective for students who need or want to develop more advanced ICT based pedagogical skills.
- Provide a short foundation course that focuses hands-on ICT experience as the initial stage of pre-service training.
- 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.

### **Conclusion:**

Teaching occupies an honourable position in the society. ICT helps the teacher to update the new knowledge, skills to use the new digital tools and resources. ICT is one of the major factors for producing the rapid changes in our society. By using and acquire the knowledge of ICT, student teacher will become effective teachers. ICT in education is not transformative on its own. ICT is only a tool. Only by effective implementation it becomes useful. 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. It can change the nature of education and roles of students and teacher in teaching learning process. Teachers in India now started using technology in the class room. Laptops, LCD projector, Desktop, EDUCOM, Smart classes, Memory sticks are becoming the common media for teacher education institutions.

So we should use information & communication Technology in Teacher Education in 21st Century as because now teachers only can create a bright future for students.

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