

Role of ICT (Information & Communication Technology) in 21st Century's Teacher Education

Khursheed Ahmad Khanday

Research Scholar, Dept. of Education, Kashmir University, Kashmir, India

Email: khursheed5100@gmail.com



KHURSHEED AHMAD KHANDAY

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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). ICT has become an inevitable part of our lives for the last few decades, affecting our society as well as individual life. ICT has tremendously affected and revolutionized the educational world. The teachers, students, administrators and other persons related to education are directly influenced by ICT. Teachers use ICT for making teaching learning process easy and interesting. The knowledge of ICT also required for pre-service teacher during their training program, 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 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. So, the knowledge of ICT is very much essential for both the prospective teachers as well as in-service teachers also. This will help teachers to know integration of technology with classroom teaching. This paper discusses the role of ICT in 21st Century's teacher education.

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Introduction

21st Century is the age of information and technology (IT). Every aspect of life is one way or another way influenced by science and technology. The incessant flow of information is emerging in all fields throughout the globe. The information communication technology (ICT) is popularly used in the educational field for making the teaching learning process successful and interesting for both students and teachers. In 1998, the UNESCO World Education report refers about students and teachers must have sufficient access to digital technology and the internet in their classrooms, schools and teacher educational institutions. Teachers must have the knowledge and skills to use new digital tools to help all students achieve high academic standard. The quality of professional development of teacher education depends on the extent of ICT integration in teacher education programs. According to UNESCO (2002) "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". Teachers are at the core of any living society. Technologies play an important role in training programs for teachers. The access to knowledge and information by students access through TV, digital media, cable network, internet and social media, i.e. Facebook, Twitter, Whatsapp, Linkedinn, Igo, Line, We chat etc. ICT is very important for Pre-service teacher education program in the 21st Century. Without proper knowledge of ICT teachers cannot perform well in their classrooms.

Need and Significance of the Study

The scenario of classroom is changing due to the intervention of technology. There is a technological gap between the progress of the society and the instructional activities of the teachers in the classrooms. If we see in our society on the one hand technology has revolutionized our society and on the other hand the teaching learning activities at school level have remained so far away from technology. In our classroom the knowledge is imparted by the teacher in an ancient way, a teacher centric mode, which is most of the time boring and not according to the interests of the students. But present 21st Century's education is student centric education. Students learn from multiple sources and use of ICT & Multimedia is very much essential in the educational field and simultaneously teacher's knowledge of ICT and Multimedia are also required. The present study has a great need and significance because this study shows the roles of ICT in teachers' education.

Objective of the study

The objective of the present study is to find out the roles of ICT in 21st Century's Teacher Education.

Methodology

The present study is based on secondary sources like books, articles, journals, thesis, university news, expert opinions and websites etc. The method used is a descriptive analytic method.



Why do we use ICT in teacher Education?

The classroom is now changing its look from the traditional one, i.e. from one way two way communications. Now teachers as well as students participate in classroom discussions. Now education is based on child centric education. So the teachers should prepare themselves to cope up with different technology for using them in the classroom for making teaching learning interested. For effective implementation of certain student- centric methodologies such as project-based learning which puts the students in the role of active researchers and technology becomes the appropriate tool. ICT has enabled better and swifter communication; presentation of ideas more effectively and in a 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 than before. So the ICT is very much necessary for Teacher Education.

Recent Trends in Teacher Education

The era of technology has influenced every aspect of life and education is one of them. The modes of communication have been tremendously affected by the technologies which are at the disposal of mankind. It is natural that teacher education must include new technology. Teachers should also know the right attitudes and values, besides being proficient in skills related to teaching. As we know the minimum requirement of any training programme is that it should help the trainee to acquire the basic skills and competencies of a good teacher. Now-a-days new trends in teacher education are Interdisciplinary Approach, Correspondence courses, orientation courses, etc. Simulated Teaching, Micro Teaching, Programmed

Instruction, Team Teaching is also used in teacher education. The Action Research also plays a pivotal role in Teacher Education. ICT acts as the gateway to the treasure of information available as a result of knowledge explosion and accessible due to the miraculous technological equipments which helps teachers in refreshing their knowledge kits. It creates awareness of innovative trends in instructional methodologies, evaluation mechanisms etc. for professional development.

Different Strategies for applying ICT in Teacher Education

- i) Providing adequate infrastructure and technical support.
- ii) Applying ICT in all subjects.
- iii) Applying new Pre-service teacher Education curriculum.
- iv) By using application software, using multimedia, Internet, e-mail, understanding system software etc.

Role of ICT in 21st Century's Teacher Education

ICT helps teachers in both pre-service and in-service teacher training. ICT helps teachers to interact with students. It helps them in preparing their teaching, provide feedback. ICT also helps teachers to access with institutions and Universities, NCERT, NAAC, NCTE and UGC etc. It also helps in effective use of ICT software and hardware for teaching – learning process. It helps in improving Teaching skills, helps in innovative Teaching. It helps in effectiveness of classroom. It also helps in improving professional Development and Educational management as well as enhances Active Learning of teacher Trainees. It is now replacing the



ancient technology. Now-a day's students is surrounded by competitive environments and teacher must have the updated knowledge of the subject. This can be done through ICT. ICT helps teachers in preparation for teaching. In order to introduce ICT in pre-service teacher education, different methods and strategies are applied. Different tools are used such as word processing, Database, Spreadsheet etc. Various technology based plans are used to help the teachers for their practice teaching. ICT prepares teacher for the use of their skills in the real classroom situation and also make students for their future occupation and social life. ICT used as an 'assisting tool' for example, while making assignments, communicating, collecting data & documentation, and conducting research. It is a tool for teaching and learning itself, the medium through which teachers can teach and learners can learn. It appears in many different forms, such as drill and practice exercises, in simulations and educational networks. Teachers must provide technological support to learn to use motion picture, animation, simulation training which helps student teachers to give a model presentation. If the teacher is highly equipped with technology, the student will also be equipped with technology. It removes the traditional method of teaching and prepares teacher to apply modern methods of teaching. ICT plays an important role in student evaluation. ICT is store house of educational institution because all educational information can safely be stored through ICT. ICT helps Teacher to communicate properly with their students. So ICT bridges the gap between teacher and students. ICT helps Teacher to pass information to students within a very little time. ICT helps Teacher to design educational environment. ICT helps Teacher to identify a creative child in an educational institute.

ICT helps teacher to motivate students and growing interest in learning. ICT helps Teacher for organizational preconditions (vision, policy and culture). It is also helps Teacher for their personnel support (knowledge, attitude, skills). ICT is helpful in technical preconditions (infrastructure). ICT helps us in designing learning situations which are needed for both vocational education and the training of future teachers (in the teacher training institutes). Teacher training institutes can develop their curriculum using ICT. With the help of ICT Teacher training institutes can develop communication network. Teachers learn most of their own networks (learning from others) with the help of ICT.

Conclusion

Teaching occupies an honorable position in the society. ICT helps the teacher to update the new knowledge, skills to use the new digital tools and resources. By using and acquiring the knowledge of ICT, the student teacher will become effective teachers. ICT is one of the major factors for producing the rapid changes in our society. It can change the nature of education and the roles of students and teachers in teaching learning process. Teachers in India now started using technology in the classroom. 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 the 21st century because we cannot escape from the growing and developing influence of technology.



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