ICT Integration In Teaching-Learning In Teacher Education

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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 stands for information and communication technologies and are defined, for the purposes, as a "diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information." ICT facilities can help the teachers to do assignment, research, meet friends and involves other social activities in academic environment or community. ICT also helps teachers, students and parents to come together. A quality education is an important tool for the progress, prosperity and welfare of our society as well as our country. The teachers in the school are best source for qualitative education. As the teachers are the very important source of quality education therefore, they should be free from any kind of stress, pressure and so on in their professional lives.The advancement of Science and Technology has affected the society in various spheres including education specifically teacher education. There is no doubt that ICT has brought revolutionary change in the field of teacher education. ICT can provide more flexible and effective ways for professional development for teachers. Development of ICT in school depends only on the quality and ability of the teachers handling the education system. 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 have to 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 the both pre-service teachers as well as in-service teachers also.

Keywords: ICT, Teaching-Learning, Teacher Education.

Introduction

'Information and Communication Technology' refers to, the technology used to handle information and to aid communication. ICTs stand for information and communication technologies and are defined, for the purposes, as a "diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information." These technologies include computers, the Internet, broad casting technologies (radio and television), and telephony. ICT consist of all technical means used to handle information and aid communication, including computer network, hardware, communication middleware as well as necessary software. The teachers get sufficient help from ICT in their task of teaching. Their acquaintance with the relevant source of information in the form of books, Journals and other reading material, audio – visual material and equipment and electronics and telecommunication media makes them able to acquire necessary teaching material and teaching. They may also enjoy some sign of relief is they see their students making use of the ICT resource for self-learning. ICT makes is easy the realization of the teaching-learning objectives to them if its services are well employed. "Technological devices act as a supplement for the teachers and the texts. Teachers will be able to take advantage of different kinds of information available in the internet and exchange ideas using these with the students. It is an incredible device for teacher to improve the curriculum material through the exchange of ideas with other educators" (Bill Gates, 1995). 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 programme. 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 programme of teachers. Students" accesses knowledge and information through TV, digital media, cable network, internet and social media i.e., Facebook, Twitter, WhatsApp, Linked inn, Igo, Line and Webchat etc. ICT is very important for Preservice and In-service teacher education programme in the 21st Century.

Need and Significance of ICT in Teacher Education

In the present scenario, the education system has become a more systematic, psychological, student centric and scientific in nature. The role of teacher is very crucial to manage this complicated education system. Therefore every teacher should be free from Occupational Stress in their professional life.The use of ICT in Teacher Education will change the role of the teacher, enabling students to exert more choice over how they approach study. The role of teacher in ICT based education will be as a guide, facilitator rather than a director. The teacher in a new role will encourage critical thinking skills, promote information literacy and nurture the cooperative learning to foster creativity among students. We are living in a constantly evolving digital world. ICT has an impact on nearly every aspect of our lives - from working to socializing, learning to playing. The digital age has transformed the way young people communicate, network, seek help, access information and learn. ICT has become a persuasive force in transforming social, political and economic life globally as well as created both new opportunities and threats for humankind. One of the most important features of the digital age is the use of new communication technologies to construct digital citizenships. Technologies can certainly contributes to a

society where people can more easily communicate, understand the current situation, visualize the implications of their actions, understand each other's point of view, and form meaningful relationship with people who are geographically or culturally distant.

Objectives

• Improve the quality and consistency of teacher education through standards, measurement accountability and increased technology resources.

• Ensure that every teacher knows how to use data to personalize instruction.

• Improve the training of new teachers in the use of technology.

• ICT is going to play a vital role in bringing about qualitative change in every aspect of our life in general and that of governance of education.

Approaches to Integration of ICT in Teacher Education

Use of ICCT in Teacher Education around the world is being approached in a number of different ways with varying degree of success. These points were subsequently described, refined and merged into following points

ICT Skills Development Approach

Here importance is given to providing training in use of ICT in general, student teachers are expected to be skilled users of ICT for their daily activities.

ICT Pedagogy Approach

Emphasis is on integration ICT skills in a respective subject. This approach is useful to the extent that the skills enhance ICT literacy skills and the underlying pedagogy allows students to further develop and maintain these skills in the context of designing classroom based resource.

Subject - Specific Approach

This approach has an emphasis on teacher training in how to use ICT in the classroom. It addresses issues such as selecting appropriate ICT tools and supporting students in the use of these tools using ICT to promote learning activities, developing new methods of facilitating learning and evaluating student performance.

Practice Driven Approach

Here emphasis is on providing exposure to the use of ICT in practice aspects of Teacher training. Focus is on developing lesson and assignments. Using ICT and implementing it in their work experience at various levels provides students an opportunity to assess the facilities available at their school and effectively see their own skills.

Skills and Competencies Developed of Teachers

ICT is a powerful new development with ambitious role in Teacher Education. Digital ad Internet based multimedia transforms the present trend in the field.

- Evaluating and selecting appropriate software for a particular subject and per student needs.

- Generating printed document like student assignment, newsletters, communication etc. Utilizing a variety of applications software like word processing and desktop publishing.

- Using data management tool for efficiently managing learning.

- Using the internet to support professional development including locating professional organizations, communicating with other teachers electronically and participating in online professional development workshops and seminars.

- Develops the ability of self-learning and interacting individually as the learner affairs vast experiences effectively, efficiently and expeditiously.

- ICT facilitates the learner to have control on lesson, pace the sequence, content, feedback which in turn enhances the efficiency of learning.

- It helps in transforming the definition of literacy, learning and knowledge; a definition that increasing includes multimedia digital literacy.

- ICT has changed the role of teacher from instructor to a constructor, facilitator a coach and creator of learning.

- It helps teachers working in remote locations as they can access on line libraries and current researches which significantly enhance quality teaching and up gradation of knowledge.

- The concept of e-learning is an emphasis learning by doing or interactivity.

- It helps teachers organizing and using time management system in their academic work.

- ICT based programs overcome a teacher isolation by active and cooperative participation of students.

- ICT is a tool for the transformatory empowerment.

- It can facilitate various services for establishing global friendship.

- Ability to communicate through written word, photos, sound clips, video chips and web cameras and keep people connected regardless of how far apart they are geographically.

- The possibility to quickly access a huge amount of information.

Role of ICT in 21st Century's Teacher Education

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 and teacher educational institutions. ICT helps teachers in both pre-service and in-Service teachers training and teachers to interact with students and to provide feedback. It also helps in improving teaching skill, in innovative teaching, in improving professional development and educational management as well as enhances active learning of teacher trainees. 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. ICT as a popular tool for organization and management in Institutions. So, ICT bridge the gap between teacher and students.

Conclusion

ICT is basically an umbrella term that encompasses all communication technologies such as internet, wireless network, cell phones, satellite communication, digital television etc. that provide access to information. During the past few decades, ICT has provided society with a vast array of new communication capabilities and has fundamentally changed the way we live now. It offers mass customization in the field of teacher education because it helps the teachers to accommodate individual difference in student goals, learning styles and abilities while providing improved, convincible situation for both students as well as faculty on an anytime, anyplace basis. Professional training and development refers to many types of educational experiences to learn and apply new knowledge and skills that will improve teacher performance on the job related to the individual's work (Mizell & Forward, 2010). No doubt training and professional development programs for teachers would allow them to have opportunities to learn more from time to time. Moreover, such programs will ensure teachers stay up-to-date on education information in certain research areas and the latest curriculum implemented and that teachers are engaging with new technology available and several resources that help to improve their teaching. The training provided by central office will provide a platform for teachers to upgrade their skills and knowledge, sharing knowledge with peers, and connecting to the latest changes in the education field.

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