THE EFFECTIVENESS OF ICT IN TEACHER EDUCATION

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Abstract

Effective use of ICT in teacher education programme can motivate students, make our classes more dynamic and interesting, and renew teacher enthusiasm by learning learn new skills and techniques. The integration of ICTs in teaching in general and teacher education is the need of the day. ICT can play and important role in motivating learners and encouraging them to engage in learning, within and beyond the classroom.

Objectives: The objectives of the present study are to know the various ICTs services to be used and approaches of ICT in teacher education.

Methodology: This paper is based on the analysis of review of the various literature published in journals.

Findings: The study reveals that different ICTs are now set to become instrumental to help expand access to teacher education, strengthen the relevance of teacher education to the increasingly digital work place and raise teacher educational quality, helping make teaching and learning into an engaging, active process connected to real life.

Suggestions: The study demands that by offering ICT as a compulsory and special course, integrated approaches need to be studied along with method courses.

Keywords: Adaptive technology, e-learning, , ICT, Teacher Education.

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INTRODUCTION

Education develops the individual like a flower which distributes its fragrance all over the environment. In this sense, education is that conductive process which drags a person from darkness, poverty, and misery by developing his individuality in all its aspects- physical, mental, emotional and social. With this type of all-round development, an individual becomes a responsible, dynamic, resourceful, and enterprising citizen of strong good moral character who uses all his capacities to develop his own self, his society and his nation to the highest extent by contributing his best to national honour, national glory, national culture and civilization of the nation of which he is a part, and integral part, Thus, it can be said that education is the back bone of a nation and teacher plays an important role in the process of education.

A programme of education, research, and training of persons to teach from preprimary to higher education level – National Council for teacher Education. Teacher education encompasses teaching skills, sound pedagogical theory and professional skills - W.H. Kilpatrick.

Teacher education refers to the policies and procedure designed to equip prospective teachers with the knowledge, attitudes, behaviors, and skills they require to perform their tasks effectively in the classrooms, schools, and wider community. Teacher education reaches teachers at all levels of education namely Preprimary, Primary, Secondary, Higher Secondary and Higher Education. Teacher Education have the potential to bring changes within educational systems that will shape the knowledge and skills of future generations. It is seen as a continuous process, beginning with a phase of initial training and continuing throughout the teacher's professional life throughout regular and sustained periods of in-service tracking.

Effectiveness is the capability of producing a desired result or the ability to produce desired output. Effectiveness is the degree to which objectives and achieved and the extent to which targeted problems are solved.

ICT, or information and communications technology (or technologies), is the infrastructure and components that enable modern computing. ICT refers to technologies that provide access to information through telecommunication. It is similar to Information technology (IT), but focus primarily on communication technology. This includes the internet, wireless network, cell phones, and other communication mediums. People can communicate in real time with others in different countries using technologies such as instant messaging, voice over IP and video –conferencing. Social networking websites like Facebook allow users from all over the world to remain in contact and communicate on a regular basis. Modern information and communication technologies have created a "global village", in which people can communicate with others across the world as if they were living next door.

ICT is the technology required for information processing, the use of electronic computers, communication devices and software applications to convert, store, protect, process, transmit and retrieve information from anywhere, anytime.

A. **Information:** Information refers to the knowledge obtained from reading, investigation, study or research. The tools to transmit information are the telephone, television and radio. Information is knowledge and helps us to fulfill our daily task.

B. **Communication:** Communication is an act of transfer messages. It is a process whereby information is exchanged between individuals using symbols, signs or verbal interactions. Communication is important in order to gain knowledge.

C. **Technology:** Technology is the use of scientific knowledge, experience, and resources to create process products that fulfill human needs. Technology is vital in communication.

TECHNOLOGIES INCLUDED IN ICT

ICT helps to keep pace within the latest development with the help of different technologies included in it. Technologies included in ICTs are – Radio and Television (broadcasting technology), Telephone, Computers and Internet, Video cameras, Cell phone, Personal digital assistants.

Some of the services available through ICT are –

A. **WWW:** WWW stands for World Wide Web which is one of the most important and widely accepted services (like IRC, E-mail etc) of the internet.

B. **E-learning:** E-learning is also known as online learning. It encompasses learning at all levels both formal and non-formal that uses an information network – the internal, an intranet (LAN) or extranet (WAN).

C. **Group discussion:** Internet Relay chat (IRC) is among the popular internet service people mostly use for live chatting. Group of people with common interest can exchange their views with each-other through internet.

D. **E-modules:** Modules written are converted and stored into digital version into a computer using word processor accessible by the user through internet.

E. **Teleconferencing:** Teleconferencing refers to "interactive electronic communication among people located at two or more different places." There are some types of teleconferencing base on the nature and extent of interactivity and the sophistication of technology- Audio-conferencing, video –conferencing and Web – Based Conferencing.

USE OF ICT IN TEACHER EDUCATION

The National knowledge Communication (NKC) has observed that teachers are the single most important element of the education system and the country is already facing a severe shortage of qualified and motivated teachers at different levels. ICT has become an integral part of today's teaching learning process that provides the scope for upgradation and training of teachers.

The training of teachers is a major area of concern at present as both pre-service and in-service training of teachers are extremely inadequate and poorly managed in most states. Countries across the world are using ICT in facilitating information dissemination and communication in all areas of education and training.

Effective use of ICT in teacher Education can motivate students, make our classes more dynamic and interesting, and renew teacher enthusiasm as they learn new skills and techniques.

The integration of ICTs in teaching in general and teacher education in particular is the need

of the day. The use of ICTs can make substantial changes both for teaching and training mainly in two ways.

- Firstly, the rich presentation of information changes learner's perception and understanding of the context.

- Secondly, the vast distribution and easy access to information can change relationships between teachers and the taught. ICTs can also provide powerful support for educational innovation and advancements.

ICT enables self-paced learning through various tools such as assignment, computer, etc. as a result of this, the teaching-learning process has become highly productive and enriched.

The teacher educators and individual teacher ought to sincerely and persistently work hard toward achievement of this goal and their efforts are assisted and bolstered by the use of ICT.

ICTs offer many new possibilities for teacher education, provide scope for training of teachers and also support effective professional development of teachers through regular use of technologies.

APPROACHES OF ICT IN TEACHER EDUCATION

There are three types of approaches which can be used in the classroom.

1. **Integrated approach-** This aims at planning the use of ICT within the subject to enhance particular concepts and skills and improve pupil's achievement. This involves, selecting the suitable ICT resources which will contribute to the aims and objectives of the curriculum.

2. **Enhancement approach-** This focuses on the use of an ICT resource will enhance the existing subject matter through some aspects of the lessons and tasks. Eg. Using an electronic whiteboard for presenting a theory about a topic.

3. **Complementary approach-** This aims at using an ICT resource to empower the students' learning, e.g. by enabling them to improve their class work by taking notes on the computer or by sending home work by email to the teacher from home.

Use of ICT within teacher education programs around the world is being approached in a number of different ways with varying degrees of success. These approaches are as follows –

a) CT Skills development approach

b) ICT pedagogy approach

c) Subject specific approach

d) Practice driven approach.

IMPORTANCE OF ICT IN TEACHER EDUCATION

Different ICTs are now set to become instrumental to help expand access to teacher education, strengthen the relevance of teacher education to the increasingly digital work place and raise teacher educational quality, helping make teaching and learning into an engaging, active process connected to real life. The needs of ICT in teacher education are -ICT helps teachers in both pre-service and in-service teachers training.

1. ICT helps teachers in both pre-service and in-service teachers training.

2. ICT helps teachers to interact with students and to access with institution and Universities, NCERT, NAAC, NCTE and UGC etc.

3. ICT also helps in effective use ICT software and hardware for teaching – learning process, thereby improving the effectiveness of classroom.

4. ICT helps in improve Teaching skills and brings innovations in Teaching.

5. It helps teachers in preparation of their teaching, provide feedback.

6. ICT helps teacher to pass information to students within a very little time.

7. ICT helps Teacher to design educational environment and to identify creative child in educational institution.

8. ICT plays an important role in student evaluation.

9. ICT prepares teacher for the use of their skill in the real classroom situation and make students for their future occupation and social life.

10. It also helps in improving professional Development and Educational management as well as enhances Active Learning of teacher trainees.

11. ICT also helps Teacher for their personnel support (knowledge, attitude, skills).

12. Teacher training institutions can develop their curriculum using ICT.

13. Teachers learn most from their own networks (learning from others) with the help of ICT.

14. ICT helps in implementing ICT driven distance education programmes where the teachers are given new opportunities for acquisition of a new knowledge.

Thus, ICT is a powerful weapon that shapes and guides teachers, bringing about desirable changes in present day education.

SUGGESTIONS: The professional development of teachers need to be given importance. There must be congruence between the school curriculum and teacher education curriculum. In addition to offering ICT as a compulsory and special course, integrated approaches need to be studied along with method courses.

CONCLUSION: The challenge for ICTs in Teacher Education is to assure that the new generation teachers, as well as current teachers, are well prepared to use new learning methods, process, and materials with day to day emerged new ICT devices for teaching-learning process.

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