

Role of ICT in Teacher Education

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Abstract: *Through this chapter it is aimed to know the ICT is a systematic, technological and engineering discipline and management technique used in handling data, its application and association with social, economic and cultural matters (UNESCO, 2002). ICT stands for information and Communication Technologies. ICT is a half of our life for the last few decades poignant our community as well as individual existence. ICT that is currently generally assist in instructional world. Teacher, Student, administrator and each folks connected to education area unit popularly assist ICT. Teacher use ICT for creating teaching-learning method easy and fascinating. A competent teacher has many skills and techniques for providing thriving teaching. Thus development and increase of skills and competencies of teacher needed information of ICT and Science & Technology. In trendy science and technological societies education demands additional information of teacher relating to ICT and skills to use ICT in teaching-learning method. The information of ICT conjointly needed for pre-service teacher throughout their coaching protections a result of this integrated technological information helps a prospective teacher to recognize the world of technology in a higher means by that it will be applied in future for the betterment of the students. Currently-a day's ICT's area unit remodelling faculties and lecture rooms a new look by conveyance in new syllabus primarily based on real world issues, projects, providing tools for enhancing learning, providing lecturers and students additional facilities and opportunities for feedback. ICT conjointly helps lecturers, students and oldsters to come back along. Continuous and comprehensive analysis (CCE) helps students as well as lecturers to use additional technology for creating teaching-learning additional engaging for the betterment of our future generation. Lecturers should recognize the use of ICT in their subject areas to facilitate the learners for learning additional effectively.*

Keywords: ICT, Technology, Teachers training, Student teacher, Pre-service, In-service

I. INTRODUCTION

Information and communication technology refers to a technology employed in the form of tools, equipment and application support which help in the collection storage, transmission, manipulation of information as accurately and efficiently as possible for the purpose of enriching the knowledge and develop communication, decision making as well as problem solving ability every aspects of life are related to science and technology. Huge flow of information is emerging in all fields throughout the world. ICT are also help in various sector- industries, companies etc. But in the field of education the role of ICT is most important. ICT most important in pre-service and in-service teacher education programme. The face of the Indian classroom is changing. Technology is transforming the traditional methods of teaching and learning in the classrooms of the 21st century. The goal is to create students who can become active, independent and life-long learners rather than passive recipients of information. This new approach to education takes the student beyond the traditional textbook. In 1998, UNESCO World Education report refers about students and teachers must have sufficient access to improve digital technology and the Internet in their classrooms, schools, teacher's educational institutions. 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".

ICT are most powerful aspect in present world. The knowledge of teachers is also updated and enhance in the field of Technology. Teacher's technological skill, knowledge and experience also import to build in future generation. The role of teacher in ICT based teaching-learning process is active and the role of students is passive. Technology plays an important role in training programmes of teachers. Students access knowledge and information through TV, digital media,

internet, social media i.e. Facebook, Twitter, WhatsApp etc. ICT is very important for pre-service teacher education programme in the present day. Without proper knowledge of ICT teacher cannot perform in his/her classroom and it could not be said to be a complete one.

In this perspective we are first discussed ' what is ICT?' ICT refers to the exchange of Idea, thought, thinking etc. through the technology.

II. TEACHER EDUCATION

Teachers education means to the develop of teachers skill, experience and knowledge in the various field of education. Teachers education consists of two parts- pre-service and in-service teacher education. Pre-service teacher education includes various courses- B.Ed., B.P.Ed, D.L.Ed, M.Ed, and M.P.Ed. In this course teachers are gain knowledge to the field of education and develop skills. In-service teacher education refers to the update of pre-service teachers existing knowledge in the various field. The characteristics of those teacher educators who perform best in an online environment are-

- Tolerance for discovery learning.
- Familiarity and comfort with technology.
- Initiative.
- Independent learning.
- Curiosity.
- Strong writing skills.

2.1 Problems of Prepares Teachers to use technology

Preparing teachers proficient in the use of technology will require expanding technology use among teacher's educators. This is dodged by the following problems-

1. Restricted availability of materials.
2. Lake of faculty members training.
3. No clean expectation that faculty will incorporated technology in academic activities.
4. Lake of funds.
5. Lake of time to improve facility in using materials and software.
6. Ambiguity about the pedagogical accuracy of using some of the newer technologies.
7. Lake of technical support, lake of appropriate materials, particularly integrated media materials suitable for teacher education institutions.
8. Absence of clear programmatic goals for the teachers education programme as a whole.
9. Inability of the faculty to remain up-to-date.
10. Logistics of integration of technology into curriculum.
11. Lake of time to fit more classes into the Present curriculum.

Most teacher training institutions have computer literacy courses, which expose the pre-service teachers to computer applications use of Word, PowerPoint and the like. Instead, a better approach would be integrating computer instruction into existing methods and foundation courses. There is a need to infuse technology across the whole curriculum, so that student teachers acquire core subject area skills and knowledge as well.

III. IMPORTANCE OF ICT IN TEACHER EDUCATION

The classroom environment changing in present day world. In traditional classroom teaching-learning process are one way and the present or modern classroom teaching-learning process are two way. So, the teacher should prepare to cope up with different technology for using them in the classroom for making teaching-learning interested. In present day, classrooms are students centric. So, need, interest, attitude, aptitude, ability wise to develop the technological knowledge among the students. ICT has presented various effective ideas, tools, materials in the relevant of present day. It is an effective tools for machine-learning process and students gain attention in a better way. So, in the present context, ICT is most important or relevant for teacher education.

IV. RECENT TRENDS IN TEACHER EDUCATION

Society is change every time or movement. The needs of the society and the people are most important in the present day. Technologies are most important in present day education. The classrooms are child-centric in present day. So, technological change are also effect in human life. In the recent trend of teachers education to apply multidisciplinary approach. In the present day, the easy availability of digital and networked tools has drastically changed the teaching and learning process. Teachers knowledge needed for teaching using technology in the classroom. The traditional view of education seems highly intelligent, well- motivated students debating in intimate seminar groups, studying in well stocked libraries and experimenting in well equipped laboratories. A shift in thinking is required for teacher preparation that is in tune with today's needs. preservice teachers must routinely encounter the effective infusion of technology in the normal course of their learning at the college and in their teaching practice in schools. As educators seeks viable ways to use technology to enhance teaching and learning experience, college must also prepare future teachers to plan for effective technology use. Teachers preparation programs should not only integrate technology throughout the curriculum, but should also provide opportunities for the students to manage problems within the actual school setting as they integrate various tools of technology.

4.1 Nature of ICT in Teacher Education in Present Context

- ICT collaboration lectures in each pre-service indoctrinate.
- ICT support lectures to move with pupils.
- It helps to teachers in preparation their teaching, give feedback.
- ICT additionally helps lectures to evaluate with establishments and universities, NCERT, NAAC, NCTE and UGC etc.
- It additionally, support in better use of ICT code and hardware support systems for teaching-learning process.
- It helps in increase teaching ability, helps in innovation teaching.
- It helps in usefulness of room. It additionally helps in rising skilled improvement and instructional infrastructure as well as develop to active learning of teacher trainees.
- It is currently exchange the pre-vedic technology. As we tend to understand now-a-days students square measure perpetually have comparable mind. Thus teacher should have the information of the topic. This will be done through ICT.
- ICT helps lectures in preparation for teaching. In order to introduce ICT in pre-service teacher education totally different ways and methods square measure applied. Totally different tools square measure used such as word process, database, and program etc. varied technology primarily based plan's square measure used to facilitate the lectures for their follow teaching.
- ICT build teacher for the use of their skills in the classroom state of affairs and additionally create students for their future application and social life.
- ICT used as associate "assisting tools" for example whereas creating assignments, human activity, grouping information and documentation.
- Generally, ICT is applied severally from the content matter. ICT as a instruction for teaching and learning. It is a tool for teaching and learning itself, the instruction through that lectures will teach and pupils to learn future.
- It seems in several totally various from like as drill and follows exercise, in simulations and instructional variety of networks.
- ICT as a common technique for formation and regulation in establishments. Lectures should give technological collaboration to learn victimization image, animation, simulation coaching that supporter student lectures to offer sketch presentation. If the teacher is extremely decorated with technology, the students can additionally be decorated with technology.
- It transfer the ancient methodology of teaching and ready teacher to apply fashionable methodology of teaching.
- ICT is exhibition associate vital role in student analysis, ICT is pool of instructional establishment as a result of all instructional information will safety treasury through ICT.

- ICT support teacher to convey properly with their students. Thus ICT intervention the gap between teacher and students.
- ICT support teacher to transfer information to pupils among a terribly very few time.
- ICT helps teacher to style instructional surroundings.
- ICT assist teacher to encourage students and developing interest in learning.
- ICT assist teacher for structure pre-conditions (idea, flair and education).
- It is conjointly assist teacher for their personals resources (skills, experience, and knowledge).
- ICT effective for technical pre-conditions (infrastructure).
- ICT useful for intended learning things that is required for each business, education and the coaching of future learners (in the teacher coaching institute). Teacher coaching institutes will develop their syllabus mistreatment ICT. With the assistance of ICT teacher coaching institutes will develop indication network. Lectures read most from their self networks (learning from others) with the assistance of ICT.

4.2 Strategies Relating To E-learning and Innovative Technologies

- Analysis of the opportunities and constraints in using technological resources including selection of appropriate multimedia resources to the learning situation chosen.
- Clarity the bottom line in terms of gains in students/trainee performance.
- Deliver a complete package.
- Eliminate risk and surprise.
- Speak their language.
- Offer continuous support.
- Emphasize teams.
- Provide venues for rewards and recognition.

4.3 Professional Development of Teachers in present context to use ICT

The world links for development program began in Uganda in 1997 under the auspices of the World Bank institute. The world program has four components: connectivity, training, monitoring and evaluation. While many international and local organisations have focused on providing technology to schools. World has over the years, built an impressive reputation as one of the world leading providers of professional development service to teachers. World professional development program for teachers, which are delivered primarily face to face by international and local trainers, with follow-up online; are in five phases:

1. Computer literacy.
2. Introduction to the Internet for teaching and learning.
3. Introduction to tele collaboration learning projects.
4. Curriculum and technology integration.
5. Innovations: Pedagogy, Technology and Professional Development.

V. CONCLUSION

Teaching complete associate honourable status in the community. ICT assist the teacher to modify the new information's, attainment to use the new digital technique and resources. By exploitation and acquire the indication of ICT, student teacher can become active academics. ICT is one of the major components for manufacturing the fast modify in our community. It wills amendment the sources of education and roles of students and teacher in teaching-learning method. Academics in republic of India currently started exploitation technology in the category area- Laptop's, Projector, Desktop etc. common media for teacher education establishments. Therefore we tend to ought to assist information and communication technology in Teacher Education in present day as a result of presently academics exclusively will generate a knowledgeable future for pupils.

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