

**RESEARCH PAPER****ICT Inclusion in Teacher Education and its Impact on Quality Teaching****Antara Dey and Nil Ratan Roy**

Department of Education, Tezpur University, Tezpur, Assam

Email: antaradey666@gmail.comReceived: 13th March 2019, Revised: 22th March 2019, Accepted: 30th March 2019**ABSTRACT**

Information and communication technology (ICT) has become an indispensable part of education system. The quality and efficiency of education depends on quality of teacher education. Integrated technological knowledge helps a prospective teacher to know the world of virtual technology can be applied in future for the betterment of the students. Technology based teaching-learning process is important in bringing about digital opportunity and paradigm shift for delivering well designed, learner centered, interactive and facilitated learning environment to anyone are anyplace, anytime by utilizing the attributes and resources of various digital technologies. These changes have caused educational institution, administrators, and teachers to rethink their roles, teaching and vision for future. Even today our classroom processes are mostly based on chalk and talk, thus there is an immediate need for orienting the teachers in ICT skills and program. The teachers to be trained in the use of modern tools of ICT and online resources. In modern science and technological societies education demands more competencies of teacher regarding ICT and skills to use ICT in teaching-learning process. Now a day's 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, assessment system and providing teachers and students more facilities and opportunities for feedback. But, still a huge gap between curricular stipulations and their implementation. The curriculum has to gear up to challenges of ICT to improvise teaching learning process, accordingly the teacher education programmes should also respond to the changes brought through ICT. This empirical paper mainly focuses on the pre-service and in-service programmes should be aimed to train prospective teachers to use ICT in terms of online resources for enhancing pedagogical competency and making teaching learning process a joyful and effective.

Key words: ICT skills, Quality of Teacher Education, Virtual Technology, Online Resources, Curriculum Stipulations

INTRODUCTION

Education enables the teachers to act as catalyst in the presses of developing the future citizens, the teachers' education programme needs to be rejuvenate and revamp in spatio-temporal scale. Teachers should take the responsibility for quality reforms at the grassroots with the help of ICT. In the age of globalization, liberalization, privatization teachers need to be equipped not only with content knowledge and effective teaching skills but with the competency and capacity to assist students to meet the demands of the emerging technology oriented knowledge-society to meet the challenges of globalization.

The Education Commission (1964-66) stressed that education that determines the level of prosperity, welfare and security of the people and professional education of teachers is essential for the qualitative improvement of education. In 1998, UNESCO World Education report refers about student and teachers must have sufficient access to improve digital technology resources and the internet in their classroom, schools, and teacher educational institutions. 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. Teachers and Students can accesses knowledge and information through TV, digital media, cable network, internet and social media networks, Online Learning Platforms,

Web 2.0 Technologies (Blog, Wiki, and Podcasts), Massive open online courses, web conferencing, online video and teaching channel, E-portfolio, e-publication, Telecommunication, EDUSAT Experiment etc. Without ICT integration teaching-learning process remains incomplete.

RATIONALE OF THE STUDY

In order to make effective teaching and learning it is essential for a teacher to use appropriate modern technological resources. Changes taken place in Academic Learning Time based on technology are most directly influenced by the teacher's classroom performance in terms of planning, management and instruction. The scenario of the classroom is changing. There is a technological gap between the progress of the society and educational activities of the teacher in the classroom. Technology has revolutionized our society in one hand mainly in urban areas and on the other hand teaching-learning activities at school level have remained so far away from technology in the context of rural remote areas. But present 21st Century's education is changed from teacher centric to student centric education. Teachers and Students learn from multiple sources of Technology and for this reason to know use of ICT resources, Multimedia are very much essential in educational field.

OBJECTIVE OF THE STUDY

➤ To study the role of ICT resources in Teacher education and its impact on Quality teaching.

METHOD

This present study is based on secondary sources like books, Articles, Journals, Thesis, University News, Expert opinion and websites etc. The method used is Descriptive Analytic method.

DIFFERENT STRATEGIES FOR APPLYING ICT IN TEACHER EDUCATION

1. Providing adequate infrastructure and technical support.
2. Applying ICT in all subjects.
3. Applying new Pre-service teacher Education curriculum.
4. Applying in new Pre-service teacher Education Internship programme.
5. By using application software, using multimedia, Internet e-mail, communities, understanding system software.
6. Applying in new In-service teachers' refresher course.

PLATFORMS FOR APPLYING ICT RESOURCES IN TEACHER EDUCATION

Online Learning Platforms:

Internet gives a large number of learning opportunities. There are free as well as paid Teacher Education online courses are provided. An online learning platform might only provide e-content, assessment tasks which are not graded, and an interaction platform. In-service and pre-service teachers can enroll to enhance more effective teaching learning process. Following are some examples of online learning opportunities.

online learning platforms that you might be interested in are here:

1. Khan Academy - <https://www.khanacademy.org/>
2. Saylor-<https://learn.saylor.org/>
3. EdTech Leaders Online- <http://www.edtechleaders.org/>
4. iEARN-<http://www.earn.org>

MASSIVE OPEN AND ONLINE COURSES (MOOCS)

The essential feature of MOOC offers online learning platforms, to anyone want to learn, to any number of participants, at a fixed given timeframe in a modular form. In MOOCs, one would be able to enroll into a full-fledged course, consisting of course structure, instructional video, guided interaction, monitored evaluation, grading of the tasks completed etc. In other words, the MOOCs provide a complete learning experience online. SWAYAM is a platforms is available which offers open and online courses at free of cost. Both the MOOCs and SWAYAM helps In-service and pre-service teachers can enroll in any required to enhance the Quality of teaching learning process.

Popular MOOCs platforms are:

1. SWAYAM-<https://swayam.gov.in/>
2. Open learning - <https://www.openlearning.com/>
3. NovoEd-<https://novoed.com/>
4. MOOC-Ed-<https://place.fi.ncsu.edu/>
5. Future Learn-<https://www.futurelearn.com/>

SOCIAL MEDIA NETWORKS

Social media networks provide teachers with opportunities to get connected with people who are linked with teaching-learning process. Social media-based platforms give access to professional organizations and helps for adult learners. Social media network provide opportunities to share resources, spark questions that expand collective learning and make connections that sometimes lead to employment offers, consulting requests and collaboration opportunities and create Online communities. Spaces such as Twitter (<https://twitter.com/>), LinkedIn (<https://in.linkedin.com/>), Facebook (<http://www.facebook.com/>) and Google+ (<https://plus.google.com/>) offer instant opportunities of direct engagement to discuss with writers, educators.

WEB 2.0 TECHNOLOGIES (BLOG, WIKI, AND PODCASTS)

Web 2.0 technologies such as blogs, wikis, and podcasts, Social bookmarking, online groups have been considered as 'social software' because they are perceived as being well connected, allowing users to develop web content collaboratively and open to the public. Web 2.0 tools and resources are helps in powerful information sharing and straightforward collaboration with taking minimum technical skills which helps in collaborative learning.

Some podcast links useful for a teacher:

1. Teacher Created Materials-<http://www.teachercreatedmaterials.com/podcasts/>
2. Math Mutation-<http://mathmutation.blogspot.co.uk/>
3. NASA Science Cast-<http://science.nasa.gov/science-news/sciencecasts/>
4. Grammar Girl- <http://www.quickanddirtytips.com/grammar-girl>
5. Radio Lab - <http://www.radiolab.org/>

WEB-CONFERENCING

Web conferencing allows people to reach in a conversation irrespective of national and international boundaries. Web conferencing combines graphics means pictures, Power Point Presentations, with audio and video. It also includes a range of interactive tools and resources such as voting, chat and can ask a question or comment with the help of internet. It may also include document sharing, a whiteboard and web surfing features. Web conferencing has become popular for helping in teaching learning process. Expertise in subject, pedagogic and teaching skills webconferencing facilitates the total process more interactive.

ONLINE VIDEOS/TEACHING CHANNELS

There are many platforms like YouTube (<https://www.youtube.com/>) which provide thousands of videos which will help to prepare a lesson. These teaching channels not only enrich the content for teachers but also provide a rich learning experience by exposing students to professionally made educational videos and helps to prepare a virtual community.

There is a list of such teaching channels:

1. Vimeo Teaching Channel - <https://vimeo.com/teachingchannel>
2. TeacherTube-<https://www.teachertube.com/>
3. Pro Teachers Video-<http://www.proteachersvideo.com/Home.aspx>
4. Edutopia videos-<http://www.edutopia.org/videos>
5. Teaching channel (<https://www.teachingchannel.org/>)

E-PORTFOLIO

In a portfolio, as teachers we can assemble records, documents and details of our teaching and their result in a very creative and systematic way which helps in reflective practitioner in

collaborative ways. These documented details give us an opportunity to improve teaching at different points of time. Thus teaching can be seen as an ongoing process of inquiry, experimentation and reflection.

Components of a Teacher Portfolio:

Thoughts about Teaching

Documentation of Your Teaching

Teaching Effectiveness

Materials Demonstrating Student Learning

Activities to Improve Instruction

Honors, Awards, or Recognitions

Teacher Reflections

E.g. Ms. Van Patter's teaching Portfolio <http://eduportfolio.org/3160>

E-Publications (Blog, websites):

E-Publication could range from publishing in a professional journal to publishing content in a website. Publication in a journal needs a prior review but publishing in a website does not require this review in advance. As readers comment and express their views, the content could be revised and further developed. This is a very important source for readers and writers which enhances the quality of teaching indirectly.

Some blogs and websites are:

Wordpress: <https://wordpress.com/>

Blogger - <https://www.blogger.com>

SimpleSite - <http://www.simplesite.com/>

GoogleSite - <https://www.google.com/sites/overview.html>

TELE-CONFERENCING EDUSAT EXPERIMENT

EDUSAT is an educational satellite launched in 2004 dedicated to serve the educational sectors. Interactive Radio Instruction and interactive video instruction trainings helped the teachers to learn activity based instruction. These lessons exposed teachers to more student centric lessons and activities. This is a good example of ICT being used for professional development of teachers for integrating ICT in classroom. EDUSAT also launched dedicated live television channels GyanDarshan and a radio channel Gyanvani helps to offer the distance education through virtual classroom mode.

BENEFITS OF ICT IN TEACHING LEARNING PROCESS

1. ICT provides lifelong professional development by providing courses in a virtual situation, training on demand, orientation and refresher courses through videoconferencing and online reduce the cost of teacher training.
2. ICT facilitates sharing of ideas, experience as well as collaborating on projects, and exchange materials through virtual communities.
3. ICT enhances to prepare good teaching and training materials, use of simulators, recording and feedback in teaching.
4. With the help of ICT, teachers can access with colleagues, schools, institutions and universities, expertise, rich resources in cyber space at any time and any place.

DISCUSSION

In the era of 21st century it can be said that teaching learning process is depend upon ICT resources. In this article we have discussed about ICT resources various including online learning platforms, MOOCs, social media networks, web 2.0 technologies and web conferencing for providing teaching learning process more qualitative and effective. Not only ICT resources, tools and techniques but also teaching channels helps in teaching learning process. It would be briefly explored how ICT integration in teaching and learning leads to professional development, taking examples of e-portfolios and teleconferencing mode employed in EDUSAT experiment. Anybody can enjoy to learn from anyplace of the world only because of the ICT integration in teaching learning process. Anyone can direct contact to the Author and discuss queries and helps to cross

verify of any data. Various dimensions of education like content, pedagogy, teaching skills, integration of technology can be fulfilled by using ICT for teaching learning process.

Apart from these, many challenges of ICT resources in the era of Globalization, Privatization and Modernization in several context. Most important challenge of teacher preparation programme is preparing skilled teachers facilitate to learn. Participatory method, multiple uses of resources for teaching learning, accepting collaborative, co-operative learning, and skilled personal and executing self-evaluation is the major focus of teacher preparation programme. Full implementation of ICT based curricular and practices are seems to be discouraging. There are many problems in Indian context in terms of implementation of ICT resources based classroom. There are no indicators of ICT based teaching learning process. ICT based teaching learning process in schools, colleges, teacher education and other institutions is still growing very slowly because of various challenges. ICT resources use Skills and competencies are essential for enhancing learning student teachers. Apart from these problems it can be solved by proper planning and systematic implementation.

CONCLUSION

In order to reflect ICT based teaching learning in curricular practices, training and encouraging towards using ICT is most important thing for practical implementation. Teaching is an honorable position in the society. ICT helps a pupil teacher to adopt the new innovative knowledge, skills to use the new digital tools, techniques and resources. Proper implementation of ICT enabled knowledge; student teacher will become effective teachers. ICT can help to change society as well as next generation. It can change the nature of education systems in school, colleges and universities and roles of students and teacher in teaching learning process. Teachers in India now started using technology oriented smart classroom. But the remote villages of India's scenario is different Laptops, projector, Desktop, whiteboard, Smart classes, Memory sticks, hard disc are becoming the common media for teaching learning process in teacher education institutions. So, we should use information & communication Technology in professional teacher preparation courses in 21st Century as because now teachers only can create a bright future for students teachers and can change the mindset of next generation.

REFERENCES

1. Agarwal J.P. (2013): Modern Educational Technology. Black Prints, Delhi.
2. Aggarwal J.C. (1996): Essential of Educational Technology, Vikas Publishing House, New Delhi.
3. Bhattacharjee B. and Deb K. (2016): Role of ICT in 21st Century's Teacher Education. International Journal of Education and Information Studies.6(1),1-6. Retrieved from <http://www.ripublication.com>.
4. Hooker M. (2009): Concept Note: The Use of ICT in Teacher Professional Development, Accessed on 16th January 2016. Retrieved from. <http://www.gesci.org/old/files/docman/TPD,Workshop>
5. InfoDev (2005): Using Technology for Training Teachers Accessed on 16th January, 2016. Retrieved from <http://infodev.org/articles/usingtechnologytrainteachers>
6. Jadhav V. (2011): ICT and Teacher Education. International Educational E-Journal, I(1), 64-69.Retrieved from <http://www.oijrj.org>.
7. Kaur H. (2016): Role of ICT in Teacher Education. International Journal of Educational Research and Technology, 7(4), 18-21. doi: 10.15515/ijert.0976 4089.7.4.1821
8. Kirwadkar A and karanam P. (2010): E-learning Methodology. Sarup Book Publishers Pvt Ltd. New Delhi.
9. Venkataiah N. (1995): "Educational Technology" Atul Publishers, DaryaGanj, New Delhi.

How to cite this article:

Dey A. (2019): ICT Inclusion in Teacher Education and its Impact on Quality Teaching. Annals of Education, Vol. 5[1]: March, 2019: 47-51.