

# CONFLUENCE OF ICT BASED EDUCATION AND TEACHER PREPARATION: NEED OF THE HOUR

Antara Dey<sup>1</sup> & Dr. Nil Ratan Roy<sup>2</sup>

<sup>1</sup>Research Scholar, <sup>2</sup>Associate Professor

<sup>1,2</sup> Department of Education, Tezpur University, Tezpur, Assam, India

Received: February 01, 2019

Accepted: March 17, 2019

**ABSTRACT:** *Information and communication technology (ICT) has become an indispensable part of education system. The quality and efficiency of a teacher depends upon the quality training. Integrated technological knowledge helps a pre-service teacher to use this for the betterment of the students. Technology based teaching-learning process is important in bringing about different opportunity and paradigm shift for delivering well prepared, student centered, interactive learning environment to anyone are anyplace, anytime by utilizing the resources of various technologies. These changes have caused educational institution, administrators, and teachers to rethink their roles, teaching and vision for future. There is an immediate need for orienting the teachers in ICT skills and program instead of ongoing chalk and talk process. ICT based skill and competencies in teaching- learning process are the major focus of modern technology based society. In recent time ICT transformed the classrooms and it has got new shape because of new curriculum. New curriculum is based on recent problems of 21<sup>st</sup> century. ICT provide tools for teaching-learning process, assessment system and helps teachers and students more facilities and opportunities for feedback. But, there is a huge gap between curricular contraction and their implementation. The curriculum has to gear up to challenges of ICT to improvise teaching learning process and this new touch is reflects in ICT enabled Teacher education classroom. This empirical paper mainly focuses on all the teachers 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*

## I. INTRODUCTION

Education helps the teachers to act as Torchbearer in the process of developing the future citizens through teaching learning process, Teacher Education programme needs to rejuvenate 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 should well equipped with content knowledge, effective teaching skills, Pedagogy, competency and capacity to facilitate the students to meet the challenges and demands of the emerging technology oriented knowledge-society.

The Education Commission (1964-66) stressed that education is one of the most important weapon for prosperity, welfare and security of the peoples. Professional development of teachers is essential for effective and qualitative improvements of education system. According to World Education report 1998, UNESCO refers classroom, schools, and teacher educational institutions must have well equipped with digital technology, internet resources and it should give equal access for all. ICT integration in teacher education programme helps to grow professionalism. UNESCO (2002) refers ICT is scientifically information operating technique; it is applied in socio-economic and Socio-cultural matters. Teachers are very important sources of the knowledge-society.

ICT resources play an important role during teacher preparation programme. Student Teachers can access knowledge and information through digital media, 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.

## II. RATIONALE OF THE STUDY

Use appropriate technological resources are essential to make effective teaching and learning process during teacher preparation programme. 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. Now a Day's classroom scenario is changes. There is a huge gap between

thetechnological progress of the society and educational activities in the classroom. Information Communication 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 faraway 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.

### III. OBJECTIVE OF THE STUDY

The main objective of the present study is to study the effect of ICT resources in Teacher education and its impact on Teaching Quality teaching.

### IV. METHOD

This paper is based on secondary sources like books, Articles, Journals, Thesis, and websites. Analysis method is Descriptive in nature.

### V. STRATEGIES FOR APPLYING ICT

- i) Providing adequate infrastructural support.
- ii) ICT integration in all subjects.
- iii) ICT inclusion in Pre-service teacher Education curriculum and Internship programme.
- iv) Integration of technological resources like hardware and software in educational sectors.
- v) Using ICT in In-service teachers' refresher courses.

### VI. PLATFORMS FOR APPLYING ICT RESOURCES IN TEACHER EDUCATION

#### 6.1 Online Learning Platforms

Internet gives a large number of learning opportunities. There are free as well as paid Teacher Education online courses are provided. Online learning platform is an interactive Platform provides e-content, assessment tasks but that are not graded. In-service and pre-service teachers can enroll to enhance more effective teaching learning process. Following are some examples of online learning opportunities. Examples of Online learning platforms are: Khan Academy, Sailor, EdTech Leaders Online, iEARN

#### 6.2 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 systematic way. One can enroll into any courses of MOOCs, and can complete any course where different instructional video, content based guided interaction, specific documents in PDF format, monitored assessment, evaluation, grading of the tasks. SWAYAM is a platform 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: SWAYAM, Open learning, NovoEd, MOOC-Ed, Future Learn

#### 6.3 Social Media Networks

Social media networks is a very convenient technological opportunities for teaching-learning process to get connected with people. Social media-based platforms help to grow academic and professional organizations. Social media network provide opportunities to share ideas, ask questions that expand collaborative learning and gives employment opportunities. In that way Social media networks create online communities. Spaces such as Twitter, LinkedIn, Facebook and Google+ offer instant opportunities of direct engagement to discuss with writers, educators.

#### 6.4 Web 2.0 Technologies

Web 2.0 technologies are podcasts, blogs, wikis, Social bookmarking, online groups are known as social software and it helps in-service, pre-service teachers, teacher educator to develop web content collaboratively. Web 2.0 tools and resources are facilitates the teacher in powerful information sharing with taking minimum technical skills which helps in collaborative learning for teachers. Teachers can more skillful in using web 2.0 technologies in teaching learning process.

Examples of Podcast links useful for a teacher:

Teacher Created Materials, Grammar Girl, Math Mutation, NASA Science Cast

**6.5 Web-conferencing:**

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

**6.6 Online Videos/ Teaching Channels**

One of the most important platforms like YouTube (<https://www.youtube.com/>). Online Videos/ Teaching Channels provide thousands of videos which will help to prepare a lesson. These teaching channels help the teacher to prepare effective content and also expose student to professionally rich to develop educational video. In that way Pupil- teacher and Teacher educator can develop a virtual community. Examples teaching channels: Vimeo Teaching Channel, Edutopia videos, Teaching channel, Teacher Tube, Pro Teachers Video

**6.7 E-portfolio**

In e-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 an opportunity to the teacher who is linked with teacher education institution to improve the effective quality of teaching. Uses of ICT resources are ongoing process of experimentation and reflection in teacher education. The main components are:

- Teaching ideas
- Teaching Documentation
- Teacher Effectiveness
- Demonstrating Materials for Learning
- Instructional Activities
- Honors, Awards
- Teacher Reflections

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

**6.8 E-Publications (Blog, websites):**

E-Publications should vary from publishing any content in a professional journal to website. A prior review is required when it will publish in a journal but review does not essential if it will publish in website. According to reader's choice anyone can ask question and express their ideas, so that the content would be reformulated and further developed. This is a very important source for learner to enhance quality of teaching. Examples of E-Publications: Wordpress, Blogger, SimpleSite, GoogleSite

**6.9 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 which is more students centric. ICT can be used for professional development of teachers. ICT resources can be adopted in classroom to get effective Teaching learning process. EDUSAT also launch live TV channels GyanDarshan and a radio channel Gyanvani helps to offer the distance education through virtual classroom mode.

**VII. BENEFITS OF ICT IN TEACHING LEARNING PROCESS**

1. ICT provides cost effective online professional training, refresher courses through videoconferencing.
2. ICT facilitates sharing of ideas, experience, tools, techniques and resources through virtual communities.
3. ICT enhances to develop training materials, use of simulators, and feedback in teaching learning process.
4. With the help of ICT, teachers can access with different institutions and universities, expertise, rich resources at any time and any place.

**VIII. DISCUSSION**

In the era of 21<sup>st</sup> century it can be said that teaching learning process is depend upon ICT resources. In this article we have discussed about ICT resources includes Social Media Networks, Web 2.0 Technologies Online Learning Platforms, MOOCs, and Web Conferencing to provide teaching learning process more

qualitative and effective. Not only ICT resources, tools and techniques but also teaching channels helps in teaching learning process. ICT integration helps to professional development in teaching and learning, with the help 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.

Many challenges of ICT resources are there in the era of Globalization, Privatization and Modernization in several contexts. 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.

## IX. CONCLUSION

Curricular practices, training and encouraging towards using ICT is most important thing for practical implementation. Teachers are the honorable people in our society. ICT facilitates a student teacher to adopt the new innovative knowledge, skills through 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. ICT can change the nature of teaching learning process in any institution and role of student teachers. Teachers in India have taken initiatives to use technology oriented smart classroom. Laptops, projector, Desktop, whiteboard, Smart classes, Memory sticks are becoming an important inputs for teaching learning process in teacher education institutions. But, the remote villages of India's scenario are different. Information & communication Technology might be used in professional teacher preparation courses in 21st Century. Teachers can teach qualitatively, effectively by proper use of ICT resources.

## 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., & 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/TPDWorkshop>
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(I), 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 & karanam, P. (2010) : E-learning Methodology. Sarup Book Publishers Pvt Ltd. New Delhi.
9. Venkataiah, N. (1995) "Educational Technology" Atul Publishers, DaryaGanj, New Delhi.