



## IMPORTANCE OF ICT IN TEACHER EDUCATION

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### **Abstract**

ICT has provided society with a vast array of new communication capabilities and has fundamentally changed the way we live now. We find a world of difference in the practice and procedures of various fields such as medicine, tourism, banking, business, engineering etc. as they operate now in comparison to how they operated two decades ago. In professional development of teachers, ICT plays a vital role. A genius and sophisticated integration of ICT is necessary, so the teacher can become the facilitators, coaches and creators of learning environments. ICT can foster better teaching. In 21<sup>st</sup> Century, ICT can help in enhancing the quality of education through blended learning of ICT and chalk method.

**Keywords:** Competency based learning, ICT in teacher education, Skill development.

### **Introduction**

Information and Communication Technology (ICT) is basically an umbrella term that encompasses all communication technologies such as internet, wireless networks, cell phones, satellite communications, 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. We find a world of difference in the practices and procedures of various fields such as medicine, tourism, banking, business, engineering etc. as they operate now in comparison to how they operated two decades ago. In contrast the impact of ICT on education in India, however, has been far less and slow. The most fundamental cause seems to have been the deep-seated belief that teaching is an art or at best an imperfect science with no role of technology in the design or delivery of instruction. But now times have changed and the paradigm of education and learning has changed from art or science to technology- mediated instruction

and learning. ICT can, therefore, be perceived as a big change agent for education.

### **ICT in Teacher Education**

There are a variety of approaches to professional development of teachers in the context of use of ICT in education. Professional development to incorporate ICTs into teaching and learning is an ongoing process and should not be thought of as one 'injection' of training. Teachers need to update their knowledge and skills as the curriculum and technologies change. The most obvious technique for professional development for teachers is to provide courses in basic ICT knowledge and skills.

#### **1.1 Reasons why the role of the teacher must change**

The new educational technologies do not curb the need for teachers but they call for a redefinition of their profession. The roles of teachers have changed and continue to change from that of instructors to that of constructors, facilitators, coaches and creators of learning environments. It is no longer sufficient for teachers to impart content knowledge. They must encourage higher levels of cognitive skills; promote on information literacy and nature collaborative working practices. These new responsibilities are greatly facilitated by the use of ICTs in teaching. However, a genuine and sophisticated integration is necessary, so teacher training in this regard become crucial.

#### **1.2 Training requirements:**

In assuming their new roles, teachers are expected to upgrade their knowledge and acquire new skills in these areas:

##### **1.2.1 Pedagogy**

Teachers need new pedagogical skills so they can full advantage of the potential of technology to enhance the learning process. The use of questioning strategies is an essential of technology to enhance the learning process. The use of questioning strategies is an essential component of developing an inquiry-based classroom where a structured discussion raises basic issues, probes beneath the surface of things and pursues problematic areas of thought.



### 1.2.2 Curriculum development

Teachers must be able to develop appropriate, effective curricula that enable students to construct meaning, integrate new knowledge into their world views and communicate understanding.

### 1.2.3. Full integration into curriculum

Strategies are necessary to meaningfully integrate technology into the curriculum. Technology must be considered as learning tools, not merely treated as a subject area in itself. In particular, teachers need the skills to develop long-term strategies for using technology to support their curricula, student outcomes, and learning goals.

### 1.2.4. Staff development

Activities that simply provide skills in using particular software applications, for instance, have shown little impact on students' classroom learning. Ultimately, students' success depends on teachers using technology to support sophisticated, hands-on/ minds-on, multidisciplinary learning projects. These projects must be tightly linked to overall strategic goals and to content standards.

### 1.2.5. Support system

Teachers must have systems of support at various levels – regional, district, and school – for integrating technology and overcoming isolation as they grapple with new and unfamiliar approaches to teaching and tools for learning. They also need real-time technical support in resolving problems related to hardware, software and networks; problems that can often interface with or completely derail the learning of both teachers and students.

## 1.3 Teacher Centered Learning to Skill development and Competency Based Learning

ICTs are cause to make a move from a teacher centered learning to competency based learning. Use of ICT in education also affects the student's way of learning. For teachers to be able to integrate the use of ICTs into teaching various kinds of competencies need to be developed, such as:

- Creativity
- Flexibility

- Skills for project work
- Administrative and organizational skills
- Collaborating skills
- Facilitators
- Open – minded and critical independent professionals
- Active cooperators and collaborators
- Mediators between learners and what they need to know

### New ICT skills

A technically competent teacher is able to:

- Operate computers and use basic software for word processing, spreadsheets, email, etc. a variety of learning environments, both individual and collaborative.
- Include a variety of learning strategies, including direct instruction, discussion, drill and practice, induction and sharing.
- Aim at higher – order thinking skills.
- Emphasize ways that technology can facilitate and enhance teacher's professional lives.
- Encourage teachers to be mentors, tutors and guides of the students' learning process (rather than simple presenters of knowledge and information).
- Develop teachers' skills in learning how to learn (define learning objectives, plan and evaluate learning strategies, monitor progress and adjust as needed).
- Enable learning independent of time and place (anytime, anywhere learning).

### Conclusion

ICT, if used creatively, can make a big difference in the way teachers teach and students learn and can help students acquire 21<sup>st</sup> century skills like digital literacy, innovative thinking, creativity, sound reasoning and effective communication. ICT can help in enhancing the quality of education through blended learning by supplementing the traditional talk and chalk method of teaching. The content is the basic element of ICT-enabled learning or e-learning which must be blended with suitable technological tools using appropriate pedagogies, to generate e-content uniformly across the country. ICT can affect the delivery of



education and enable wider access to the same. In addition, it will increase flexibility so that learners can access the education regardless of time and geographical barriers. It can influence the way students are taught and how they learn. It would enable development of collaborative skills as well as knowledge creation skills. This in turn would better prepare the learners for lifelong learning as well as to join the industry. It can improve the quality of learning and thus contribute to the economy. Similarly wider availability of best practices and best course material in education, which can be shared by means of ICT, can foster better teaching. Successful implementation of ICT to lead change is more about influencing and empowering teachers and supporting them in their engagement with students in learning rather than acquiring computer skills and obtaining software and equipment. ICT enabled education will ultimately lead to the democratization of education.

### References

- Bateman, D. (2012) Transforming teachers 'temporalities: Futures in an Australian classroom, *Futures*, 44(1): 14-23
- Chapelle, C.A. (2001). *Computer applications in second language acquisition*. New York: Cambridge.
- Goel, D.R. & Goel, C. (2012), *Teacher in the Digital Age: Issues & Concerns*, *University News*, 50(53) pp. 15-25
- Mohanty, S.B. (2012), *innovations in Technology Integrated Teacher education: Case Studies*, *University News*, 50(46), pp. 15-19.
- Samantaray, J and Nirjala (2011) *Effectiveness of Computer Assisted in Teaching English*. Dissertation Trisha College of education Hamirpur. (H.P)
- UNESCO, (2002), 'Open and Distance Learning Trends, Policy and Strategy Considerations', UNESCO.
- PHS-ICT-AS, <http://phs-ict-as.wikidot.com/the-benefits-and-drawbacks-of-ict-in-education>
- National Program me on Technology Enhanced Learning, India, <http://www.nptel.iitm.ac.in/indexHome.php>
- Higher Education in India, <http://education.nic.in/sector.asp/>
- Ministry of Human Resource Development, India, 2007 <http://education.nic.in/>
- [http://www.journal.au.edu/edu\\_journal/jan2007/article06\\_vollno1.pdf](http://www.journal.au.edu/edu_journal/jan2007/article06_vollno1.pdf)
- <http://blog.lib.umn.edu/cehd/teri/Chapter%2011.pdf>