

# ICT Integration in Teacher Education

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## Abstract

ICT's "may reshape, reorganize, and restructure working methods" through its "generic advantages of efficiency, information sharing, storage, faster knowledge accumulation, dissemination which can permit new and collaborative work methods" Social, political economic and cultural changes is inevitable based on the development and diffusion of technology. The advancement of Science and Technology has affected the society in various spheres including education specifically teacher education. There is no doubt that ICT has brought revolutionary change in the field of teacher education. ICT can provide more flexible and effective ways for professional development for teachers. The paper discusses new possibilities and challenges that ICT has brought to teacher training and professional development. Development of ICT in school depends only on the quality and ability of the teachers handling the education system.

## I. Introduction

'Information and Communication Technology' refers to, the technology used to handle information and to aid communication. The phase was adopted by the new National Curriculum documents for UK in 2000. Rather than simply IT, ICT shows the importance of communications integrated with computers Information and communication Technology constitutes 'Information Technology' and Communication Technology both of which are development at a very high speed.

The teachers get sufficient help from ICT in their task of teaching. Their acquaintance with the relevant source of information in the form of books, Journals and other reading material, audio – visual material and equipment and electronics and telecommunication media makes them able to acquire necessary teaching material and teaching. They may also enjoy some sign of relief if they see their students making use of the ICT resource for self-learning. ICT makes it easy the realization of the teaching-learning objectives to them if its services are well employed. "Technological devices act as a supplement for the teachers and the texts. Teachers will be able to take advantage of different kinds of information available in the internet and exchange ideas using these with the students. It is an incredible device for teacher to improve the curriculum material through the exchange of ideas with other educators" (Bill Gates, 1995).

## II. Key Benefits of ICT in Information and Idea Sharing

ICT has become a persuasive force in transforming social, political and economic life globally as well as created both new opportunities and threats for humankind. One of the most important features of the digital age is the use of new communication technologies to construct digital citizenships. Technologies can certainly contribute to a society where people can more easily communicate, understand the current situation, visualize the implications of their actions, understand each other's point of view, and form meaningful relationships with people who are geographically or culturally distant. The key features of ICT are following:

- Sharing experiences and voicing out their salient issues.
- Inter-operability of information access to pulled down all digital barriers.
- Exchange information seamlessly, securely and sustainably.
- It is viewed as an intrinsic part of nation building.
- Carry "the new global knowledge based economy".
- It can afford various education modalities such as distance and online training:.
- ICT is a tool for the transformatory empowerment.
- Internet can make distant situations more understandable.
- It can facilitate various services for establishing global friendship.
- Ability to communicate through written word, photos, sound clips, video clips and web cameras and keep people connected regardless of how far apart they are geographically.
- The possibility to quickly access a huge amount of information.

## III. Need of ICT in Teacher Education

The use of ICT in Teacher Education will change the role of the teacher, enabling students to exert more choice over how they approach study. The role of teacher in ICT based education will be as a guide, facilitator rather than a director. The teacher in a new role will encourage critical thinking skills, promote information literacy and nurture the cooperative learning to foster creativity among students.

## IV. Objectives

- Improve the quality and consistency of teacher education through standards, measurement accountability and increased technology resources.
- Improve the training of new teachers in the use of technology.
- Ensure that every teacher knows how to use data to personalize instruction. This is marked by the ability to interpret data to understand student progress and challenges.
- Improve the training of new teachers in the use of technology.
- Drive daily decisions and design instructional interventions to customize instruction for every student unique needs.
- ICT is going to play a vital role in bringing about qualitative change in every aspect of our life in general and that of governance of education.

## V. Approaches to Integration of ICT in Teacher Education

Use of ICT in Teacher Education around the world is being approached in a number of different ways with varying degree of success. These points were subsequently described, refined and merged into following points:

### A. ICT Skills Development Approach

Here importance is given to providing training in use of ICT in general, student teachers are expected to be skilled users of ICT for their daily activities.

## B. ICT Pedagogy Approach

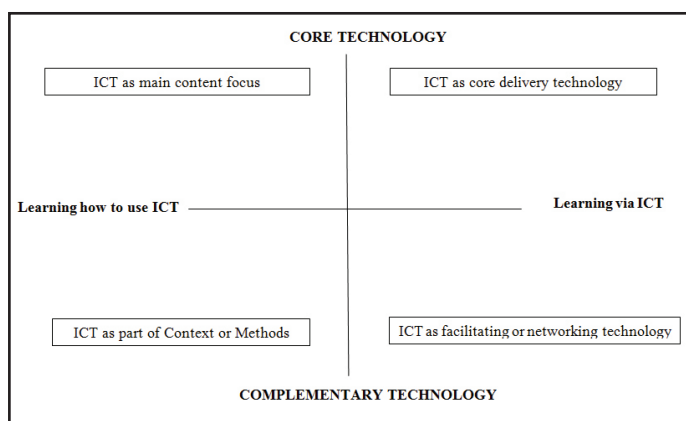
Emphasis is on integration ICT skills in a respective subject. This approach is useful to the extent that the skills enhance ICT literacy skills and the underlying pedagogy allows students to further develop and maintain these skills in the context of designing classroom – based resource.

## C. Subject - Specific Approach

This approach has an emphasis on teacher training in how to use ICT in the classroom. It addresses issues such as selecting appropriate ICT tools and supporting students in the use of these tools using ICT to promote learning activities, developing new methods of facilitating learning and evaluating student performance.

## D. Practice Driven Approach

Here emphasis is on providing exposure to the use of ICT in practice aspects of Teacher training. Focus is on developing lesson and assignments. Using ICT and implementing it in their work experience at various levels provides students an opportunity to assess the facilities available at their school and effectively use their own skills.



## VI. The Various Skills and Competencies to be Developed on the Part of Teachers Would Be:

- ICT is a powerful new development with ambitious role in Teacher Education. Digital and Internet based multimedia transforms the present trend in the field.
- Evaluating and selecting appropriate software for a particular subject and per student needs.
- Generating printed document like student assignment, newsletters, communication etc. Utilizing a variety of applications software like word processing and desktop publishing.
- Using data management tool for efficiently managing learning.
- Using the internet to support professional development including locating professional organizations, communicating with other teachers electronically and participating in online professional development workshops and seminars.
- Develops the ability of self-learning and interacting individually as the learner affords vast experiences effectively, efficiently and expeditiously.
- ICT facilitates the learner to have control on lesson, pace the sequence, content, feedback which in turn enhances the efficiency of learning.
- It helps in transforming the definition of literacy, learning and knowledge; a definition that increasing includes multimedia digital literacy.

## VII. Revolution Caused by ICT in the Realm of Teacher Education

- ICT has changed the role of teacher from instructor to a constructor, facilitator a coach and creator of learning.
- It has the advantage of ease of revision and introduction of new course in the curriculum in response to emerging demand.
- It helps teachers working in remote locations as they can access on line libraries and current researches which significantly enhance quality teaching and up gradation of knowledge.
- The concept of e-learning is an emphasis learning by doing or interactivity.
- It helps teachers organizing and using time management system in their academic work.
- ICT based programmes overcome a teacher isolation by active and co operative participation of students.
- ICT has reduced the gap between the real and virtual.
- It offers mass customization in the field of teacher education because it helps the teachers to accommodate individual difference in student goals, learning styles and abilities while providing improved, convincing situation for both students as well as faculty on an anytime, anyplace basis.

## VIII. Conclusion

ICT is basically an umbrella term that encompasses all communication technologies such as internet, wireless network, cell phones, satellite communication, 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.

## References

- [1] Albirini, A.A. (2006). Teachers attitudes toward information and communication technologies: the cause of Syrian EFL teachers. *Journal of Computers and Education*, 47, 373-398.
- [2] Bowes (2003). The emerging repertoire demand of teacher of the future: surviving the transition, retrieved, september 1, 2004, from <http://crpit.com/confpapers/CRPITV23Bowes.pdf>.
- [3] Fu, J.S. (2013). ICT in Education: A Critical Literature Review and its Implication. *International Journal of Education and Development using information and communication Technology (IJEDICT)*, 2013, Vol. 9, Issue 1, pp. 112-125. National Institution of Education, Singapore.
- [4] Haddad, W.D.(2003), Is instructional technology a must for learning? *Techknowlogi.org*. retrieved, September 23, 2004 from [http://www.techknowlogia.org/TKL\\_active\\_pages2/CurrentArticles/main.asp? Issue Number=19&FileType=HTML&Article ID=455](http://www.techknowlogia.org/TKL_active_pages2/CurrentArticles/main.asp?Issue%20Number=19&FileType=HTML&ArticleID=455).
- [5] Pacey, L.(1999). Integration of information and communication technologies (ICTs) thought teacher professional development: comparative analysis of issues and trends in seven APEC economies, Canada: Judy Roberts & Associates Inc.
- [6] Ronald C and Crawford T.(june, 2008), Campaigning Against Conflict, *ACP ICT Update Bulletin*, 43.
- [7] Takwal, R. (2003) Problem and Issues faced by Indian Education System UGC Golden Jubilee Lecture series. pp. 5.