



## Integration of ICT in Education for 21<sup>st</sup> Century

**Anil R. Singh**

*Assistant Professor*

*Shri Bhagvan Mahavir College of Education (M.Ed.),  
Affiliated with Veer Narmad South Gujarat University,  
Surat. 395 007. Gujarat, India.*

---

### Article Info.

*Received on 16 Mar 2014*

*Revised on 11 Mar 2014*

*Accepted on 11 Mar 2014*

---

### Keywords:

Integration, ICT, 21<sup>st</sup> Century

---

### ABSTRACT

*The very purpose of this article is to make the students and the teachers know what is going on around them in the academic world. Teaching is becoming one of the most challenging professions in our society where knowledge is expanding rapidly and modern technologies are demanding teachers to learn how to use these technologies in their teaching. The new role of teachers as facilitators of learning, preparation of self learning and the development of meta-cognitive skills are some important topic. A teacher plays a pivotal role, in the process of teaching undoubtedly ICT has brought about many challenges and opportunities for education. The educational system needs to come to term with these new challenges and take full advantage of the opportunities. Hence knowledge of ICT and skills to use ICT in teaching and learning has gained enormous importance for today's teacher. The exploitation of modern technology like e-learning, satellite campuses, teleconferencing, audio-conferencing, INSAT, EDUSAT, for education has been discussed. Under the changing scenario, it also discusses the responsibilities and initiatives that the teacher must take up for the successful integration of ICT in education. It concludes with discussion of key principles of affection ICT development in education.*

---

### Introduction

Ensuring that education for all is provided with adequate, equitable and sustainable resources is the fore most challenge. According to Miguel Angel Escotet "Education should be related to an intercultural and interdependent word. A word in which education teaches man to foster sharing attitudes to compete with one self and no with other, learning to be tolerant and to develop pity and solidarity for the suffering of mankind. A word free from prejudices, where learning to care ,learning to share, learning to be, learning to grasp the hole

and act on the parts and learning to carry on learning should be society's main objectives. School ends but education doesn't. Marva Collins once stated. "There is a brilliant child locked inside every student". Which seems to be very true that every child has great capabilities inside him or her? He has great adaptive abilities and unique personality and he has to be given the opportunity to develop his abilities, competencies and skills, this can be achieved by integrity ICT in education. Nowadays educational system are under great pressure to adopt innovative methodologies and to integrate Information and communication Technologies in teaching and learning process to prepare students with knowledge and skills they need in the 21<sup>st</sup> century. Therefore, it is our duty and liability to encourage the inclusive education in our country. There are so many ways like technological support and adaptations use of IT and ICT. Inclusive technologies basic conceptual from world around the inclusive education for the students with disabilities and many more.

### **ICT and Education**

New technologies create highly interactive learning environment. Education increasingly uses combinations of different communication technologies to enhance the abilities of students and teachers to communicate with each other. Today, virtual classroom, AVRC programmes of UGC, teleconferencing, live telecasting of the teacher's lecture on radio, television, internet, WWW are the examples of ICT in education. Where teacher and student present pictures, audio and occasionally video.

### **Approaches to ICT integration in Education**

#### **ICT skills development approach**

Here importance is given providing training in use of ICTs in general. Today in education students and teachers all are expected to be skilled users of ICT in their day to day activities. Knowledge about hardware, software and their use in educational process is provided.

#### **ICT pedagogy approach**

This approach emphasizes on integrating ICT skills in respective subjects. This approach is useful to the extent that the skills enhance ICT literacy skills and the pedagogy allows student to further develop and maintain their skills in the context of designing classroom based resources.

## **Subject-specified approach**

Here ICT is embedded into one's own subject area. By this method teachers not only expose students to new and innovative ways of learning but also provide them with a practical understanding of what learning and teaching with ICT looks and feel like.

## **ICT and special Education**

Persons with disabilities (PWD) Act 1995 of India, clearly mentions. Every child has right to avail habilitation and rehabilitation services without any discrimination to their degree or type of the disability. Thanks to ICT many physically challenged people today find life a lot easier. They can tap into practical disability-related information or converse with other physically challenged people.

### **ICT for the persons with visual Impairment**

JAWS (Job access with speech) software converts the all written text into speech-supported text; one can enable to hear what is being written on the desktop. Os/2 warp4 application that utilizes speech recognition capabilities that will aid visually impaired users. PWW bespeak 1.2 is a innovative creation. It is a speaking a web browser designed to understand the hypertext markup language pages.

### **ICT for the persons with physically Handicapped**

People who suffer from cerebral palsy use a computer device to help them to communicate. The Head Tracking System (head Mouse). Another such device is the smart. New camera, which allows a physically challenged person to operate a PC using only his head movements. Eye tracking System (eye mouse) is the device which allows a physically challenged person to operate a PC using only his or her eyes movements. Even foot mouse is a system that allows a physically challenged person to move the cursor using feet. Backpack PC to physically handicapped children is a specially designs wearable computer to help children with learning disabilities. The Siemens special keyboards were developed in cooperation with the organization for applied cybernetics to compensate motor handicaps.

### **ICT for the persons with hearing Impairment**

A deaf or hearing impaired person can learn to communicate in many ways. There are of course, special hardware and software like YAGHMI, VOCAL-11 Dr. SPECH etc. are available for specific cases. Along with that they can use hearing aids. Group Amplification devices for better understanding of the speech.

## **Role of ICT in Education**

- Encourage technology integration among trainees, colleagues' teachers and parents.
- Developing IT hub for the universities or institute.
- Aid in the implementation plans of the institutions.
- Launching of EDUSAT i.e. educational satellite.
- Plans design and demonstrate the use of multimedia applications for instructional use of multimedia projects.
- Spreads of computer literacy programmes for the teachers.
- Publishing of E-Books and other electronic Medias study material.
- Using online courses for the in service teachers.
- Use information literacy to access evaluate and use information from a variety of sources.
- Economic process in relation with time and money.
- Effective and fast transfer of the information.
- Effective examination system, examine a variety of evaluation and assessments tools, quick evaluation system.
- Valid certification.
- Job opportunities and placements.
- Quick accessibility and quality assurance.
- Barrier free education in terms of space, place, time, sex, etc.
- Using internet-email communities' forums blogging.
- Social, legal, ethical and health issues in education.
- Learning theories and technology integration.
- Professional and personal productivity.

## Conclusion

Integrity ICT in education is not the destination but it provides a ray of light and hope for all, so we must be concerned about the use of ICT to improve the quality of life and use this power to empower our educational system in all possible ways to achieve our national goal in 21<sup>st</sup> Century. Launching of INSAT, EDUSAT have indeed been great milestone in the educational scenario using communication technology, web based technology can enhance the level of education and India may lead the way for others to follow and their and this become Jagat Guru.

## References

1. Information and Communication Technologies in Teacher Education (2002). *A planning Guide*. Division of Higher Education, UNESCO.
2. Koehler, M.J., Mishra, p. (2005). *What happens when Teachers design Educational Technology? The development of Technological pedagogical content Knowledge*, *J. Educational Computing Research*, 32(2), 131-152.
3. Nagpal.R, Sanggeeta. (2013). *Integrity Information and communication Technologies in Teacher Education .Edutracks*. Hyderabad: Neelkamal publication pvt ltd.
4. Panner selvam S.K. (2011). *Multi-Dimension of Educational Tendency*. New Delhi: Anmol publications pvt ltd.
5. Sharma k, Mahapatra (2007). *Emerging Trends in Inclusive Education*. New Delhi: IVY publication.
6. Taylor, L.(2004). *How student teacher develop their understanding of teaching using ICT*. *Journal of Education for teaching: International Research and pedagogy*, 43-56(14).