

Avani Upadhyay
E-mail: avani.upadhyay@nirmauni.ac.in

ICT: Carving a New Era in Education

Abstract

This paper outlines how the Information and Communication tools have helped extending the periphery of education. It also emphasizes the inevitability of e-learning as well as the challenges faced by the teacher-learner in implementing such techniques in a classroom. It also mirrors how the smart schools have redefined the education.

As Dr. B. R. Ambedkar put it, “No plan for the future development of the country can be deemed to be complete which does not provide for technical and scientific training. This is the age of Machine and it is only those countries in which technical and scientific training has risen to the highest pitch that will survive in the struggle that will commence when the war is over, for maintaining decent standards of living for their people.”

The synergy of information and communication technology has opened up new vistas for not only educational but also for social and economic development. In simple terms the WWW-based environment is making the Abstract Concrete while decomposing the theoretical knowledge through the audio visual mediums. The launching of the satellite, EDUSAT, devoted exclusively to education, is a milestone in the history of the education system in India and is perhaps the best example of broadcast ICT usage in education. The EDUSAT covers more than twenty states of the country and certain islands like the Lakshadweep Islands. EDUSAT makes it possible to receive Direct to Home quality broadcasts of educational programmes using television set and a low –cost receiver.

The utility of ICT to education is manifold. Students are now aided with the concept of distance education whereby a student of Gujarat can pursue a course of his/her choice taught by London University sitting at home. And it just does not stop there. The smart classroom culture is booming day by day. And why not? Smart classrooms are not just equipped with the useful technology but also with a better scope of comprehending text based knowledge. Imagine a class where a Geography professor is lecturing on the various layers of a volcano and how does it actually function? On the other hand, a classroom where the students are watching a video where each layer of volcano is visible and the whole process of how actually a volcano takes place is being performed on the screen. So which one of these would leave a lasting impression on a student’s mind? The answer is very obvious- the second classroom that is the smart class room.

As we know, ICT encompasses all forms of electronic communication in both digital and analogue form: from computers, CD players, cell phones to conventional radio broadcast technology and tape recorders. Thus it also offers an enormous scope to the teacher to impart knowledge through innovative techniques. There are still many opportunities in this field that can radically alter the nature of education system. All we need to do is to incorporate changes in relation to infrastructure, connectivity, content and teacher capability. For achieving the dream of smart schools in every nook and corner of our country we must first put our steps ahead for:

- Training of teachers
- Change in the curriculum
- Proper infrastructure
- Diversity in the teaching culture at the institutions
- Evaluation methods
- Increasing choices in the domain of online education

- Training of teachers

In order to exploit the full potential of the ICT method, teachers need to be tutored on implementation of such techniques in the classroom. They need to be guided on which ICT tool will be more effective in context of a particular subject. For example, power point slides might not be as effective as a video or an audio clip while teaching listening skills in a language classroom.

- Change in the curriculum

Change in the curriculum is indeed need of the hour. A new curriculum should be designed keeping in mind the e-learning environment. Some new e-courses should be offered which not only hold some credits but might also appeal to the students. In fact a whole new range of e-courses can be introduced based on a student's demand. This will increase choices, competition and quality education, as it would involve a student's market based utility approach towards learning that particular subject.

- Proper infrastructure

Proper infrastructure is the pre-requisite to the transformation of any school into a 'smart school'. It demands all classrooms well equipped with an over head video projector as well as computer and internet facilities. Initially it might seem a bit difficult target to achieve but in order to integrate ICT in education we must overcome such hurdles.

- Diversity in the teaching culture at the institutions

A major shift needs to take place in the teaching culture at the educational institutions of the countries like India. The teacher should play the role of a facilitator allowing the students to be independent learners in the hi-tech classrooms. It would not only lessen the burden from a teacher's shoulders but will also help the students grow and cultivate their own approach towards the use of technology.

- Evaluation methods

Evaluation methods play a pivotal role in a student's academic life. A slight improvement in these methods through ICT might prove to be a blessing for both the teacher and the student.

- Increasing choices in the domain of online education

Nowadays, with so many technological advancements and busy lifestyle of people, the distance education is gaining more popularity. It not only provides a better opportunity but also offers a broader exposure, as the WWW is a window to the world outside. A world that caters a whole spectrum of courses of your choice without any boundaries of a nation or a university. All you need to do is to occupy the accessibility to that knowledge.

Moreover, the use of ICT is not just confined to the classroom equipments. The web technologies such as blogs, podcasts, social networks, Google Docs, e-books, online maps, virtual field trips etc. are also emerging as modern teaching-learning tools. If used creatively, even the power point slides can bring in fun quotient in the classrooms. For example, a language teacher can create some vocabulary quiz on power point slides. In the same way, the pictures representing idioms on slides can turn even the dry topic like idioms into an interesting one. However, ultimately, the responsibility of applying ICT in education lies on the shoulders of the teachers. It depends upon the willingness of the teacher to integrate various technologies in education and to bring it within the reach of the student community.

The ICT touches many aspects of education. One of them is the use of ICT for teaching the physically challenged students. For example, the visually impaired students can learn faster through the audio mediums. Furthermore, for such students teachers can even opt for 'talking books' where teacher can record a particular text or a book and then can play it during the class. While teaching poems, this technique can really be effective as it also catches the musical essence of the poem in the recording making it more pleasing to the ears as compared to a simple straight away poem recitation. Besides, in the schools of mentally challenged students, ICT can do wonders.

However, taking into account the current academic scenario of the developing nations like India, China etc.the increasing use of ICT in education is strongly contradicted by what is now termed as a 'digital divide' between the people who have effective access to the ICT and those who have little or no access to the ICT. For example, remote rural areas. Apart from that there are also some other barriers like language, lack of technical knowledge, unawareness etc. There are also some economic factors which might hurdle the full fledged use of the ICT in classrooms. It includes the financial policies created for the education as well as the provision of the budget to be spent for the ICT. On the other hand, whether to make this a 'digital divide' or a 'digital drive' depends on our modern educators.

Today, when the terms like ‘knowledge economy’ and ‘intellectual property’ have become buzz words, we are compelled to think of the relation between education, ICT and economy. Shri Pramod Bhasin, Chairman of Nasscom and President & CEO of Genpact India, states in his article ‘The World Wants to Follow ICT Driven Economy’, Business Standard: “It’s a \$70-billion (Rs 3.24 lakh crore) industry and still counting. It accounts for 5.8 per cent of India’s GDP and employs over 2.3 million people directly and eight million indirectly. It is not an exaggeration to suggest the Information Technology-Business Process Outsourcing (IT-BPO) industry has put India on the world map in less than two decades. If the country is respected today as an emerging global powerhouse and a vibrant, high-growth economy; a fair share of the credit is due to the contribution made by the ICT Information and communication technologies) industry over the years. Its per capita contribution, at nearly \$32,000 (Rs 14.8 lakh), is amongst the highest. “

Thus, ICT would help the education to be responsive to the demands of society as well as the nation. This close knitting of technology and education certainly holds a promise of a brighter dawn of future education system.

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