ICT and Its Impact on Education

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Abstract

Information and communication technologies (ICT) have become commonplace entities in all aspects of life. Across the past twenty years the use of ICT has fundamentally changed the practices and procedures of nearly all forms of Endeavour within business and governance. Within education, ICT has begun to have a presence but the impact has not been as extensive as in other fields. Education is a very socially oriented activity and quality education has traditionally been associated with strong teachers having high degrees of personal contact with learners. The use of ICT in education lends itself to more student-centred learning settings and often this creates some tensions for some teachers and students. But with the world moving rapidly into digital media and information, the role of ICT in education is becoming more and more important and this importance will continue to grow and develop in the 21st century. The optimal utilization of opportunities arising due to diffusion of ICTs in higher education system presents a profound challenge for higher educational institutions.This paper highlights the various impacts of ICT on contemporary higher education and explores potential future developments.

ICT (information and communications technology - or technologies)

ICT is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as video-conferencing and distance learning. ICTs are often spoken of in a particular context, such as ICTs in education, health care, or libraries. The term is somewhat more common outside of the United Kingdom. Technology Knowledge is about being familiar with teaching aids such as video as well as how to access web based materials and use other digital media.

ICT and its impact on Education

We have witnessed significant changes Information and Communication Technology (ICT) has brought about in our day to day lives. Examples include online booking of train and air tickets, online banking, communication, collection of information and social networking. The ICT has much larger role to play, which will bring about changes that are similar to the industrial revolution. The real benefit of ICT lies with creating a “knowledge society”, which will take India among the best in the world.

Education is divine

Education has always been considered as divine in India, and that is evident from our history which dates backs to thousands of years. India after the independence took concrete steps to improve education in the country with the help of education commission. As a result there has been an increase in the number of education institutions in the country both from primary and higher education perspective.

Education system in India lacks quality

Now our education system is in the news for wrong reasons, which includes lack of quality, shortage of skilled workforce and so on. Both primary education and higher education are in a bad state in the country. India will find it difficult to achieve its ambition of becoming a powerful economy in the near future. The government has come up with different plans to improve the condition of education system in the country, but met with little success.

ICT in education

During the 1980's India had realized the importance of technology in the class rooms and has provided limited number of computers in the schools across India. As a part of applying ICT on a wider context, the government has come up with programmes such as Akshaya Kendra, SSA, etc. Government is also planning to introduce technology in class rooms to make the process of teaching and learning more effective.

In the case of government aided and private schools and colleges, computer and projectors have taken up the place of blackboards. This has made education more interactive and engaging as it includes slide shows, videos and audio which support the process of teaching. This will create interest among students and since they can learn by visualizing, the process becomes meaningful.

There is an increasing adoption of technology in classrooms across the country among education institutions which are either government aided or private. There are even virtual learning methods which gives students access to study material and other information. Virtual classrooms help a teacher at a particular location to engage students in different location, while actively monitoring them. This gives the students to interact with a wider community of teachers and students and thus expand their knowledge.

Advantage of ICT in classrooms Technology in classrooms offers huge potential for enhancing the learning process.

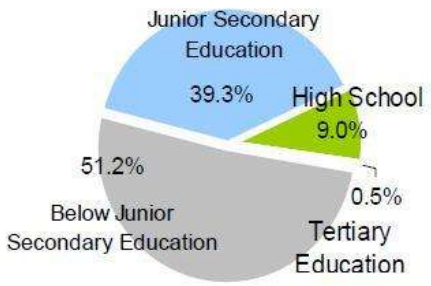
It helps in transforming the way in subjects like science, mathematics and English are taught in the classrooms. It not only makes the process of teaching interactive, but also enables the teachers to use visuals means to make the process productive. For instance, it helps to bring a virtual lab to the classrooms where students can observe various experiments while they learn the theories and concepts. This increases the amount of information that the students can retain, which otherwise is not possible. Also this encourages the students to think logically and learn by relating theory with visual examples.

ICT more useful in professional courses

In the case of professional courses education such as engineering, the use of technology in classrooms will help students to enrich and improve their skills. It also improves their ability to think critically and develop their problem solving skills. Students can make use of the internet to look for development in the field of engineering and thus become updated on the subjects, which makes them job ready.

ICT spreading to a wider area in education

Even though the use of technology in class rooms is now limited to government aided and private institutions, the government is taking initiatives to introduce it in schools across the country.



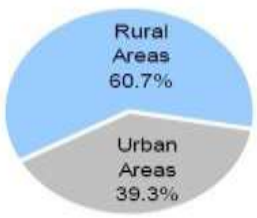
Government run schools such as the Kendriya Vidyalayas have started to use technology in their classrooms. Private organizations like Intel has come up with technology based learning programmes and are cooperating with NGO's and state governments to introduce ICT in schools.

ICT in medical colleges

The National Knowledge Commission has come up with an ambitious project to connect all the medical colleges in the country through Virtual Teaching. The programme was initiated last month with the linking of Gandhi Medical College and All India Institute of Medical Sciences. This will improve the standard of medical education in the country and also enhance the interaction among the medical colleges. As a result, knowledge sharing between medical colleges will improve and that will have a direct impact on the quality of medical professionals. It will also ensure uniformity in the field of medical education and this can be attained in other fields also with the use of this technology.

ICT still away from rural areas

Even though we have travelled long way in implementing ICT in classroom, little has been done to ensure that it is applied in institutions across the rural India. As always, rural areas have been ignored and till now adoption of technology has not contributed in uplifting the poor.



In this case too we will have the same old excuse of "India is a developing country", which is often the story heard in the rural areas. Lack of infrastructure such as proper buildings, electricity, internet connection, lack of teachers and the lack of commitment above all has lead to this situation. Education is the driving force behind the economic prosperity of a country like India. So the government and the citizens have the responsibility to ensure that the education system contributes to the development of the state and well being of the citizens. The best available option to improve the education system is technology, which should be applied wisely so that a better educated generation is molded. Connecting the rural India should be of top priority of the government if it needs to achieve inclusive growth.

Access and Equity

Education is one of the most potential weapons to fight against socio-economic maladies like poverty and inequality. Education is equally key to enhance India's competitiveness in the global economy especially in view of interdependence and integration of Indian economy with world economy posing many challenges like maintaining international quality in higher education and acceptability and sustainability of skilled manpower. This seems to be more important for a country like India which is the second largest system of higher education, next only to USA, Therefore, ensuring access to quality education for all, in particular for the poor and rural population, is key to the economic and social development of India. Looking at the ground reality, it gives a dismal picture of the state of higher education in India. The Gross

Enrolment Ratio (GER) in India is 12 percent while that of some developed countries is around 70 percent ,Ballal (2009). One of the reasons of such a poor state of affairs may be attributed to concentration of educational institutes in the urban areas while majority of population live in rural areas. This is evident from the fact that in India only as negligible as 20 percent of Higher Education Institutes are located in the rural areas with more than 65 percent of its population while the remaining 80 percent of Institutions are located in urban or Semi-urban areas which constitute only 30 to 35 percent of population. This invariably reflects gross disparities in access to higher education in India.

Suggestions and Recommendations

With the advent of globalization it has become imperative to reorient our education system to the global realities rather than continuing with the age old inward looking policies. Developed as well as developing countries like USA, UK and China are now reshaping their education policies with massive thrust on sustainable qualitative higher education along with spirit of dynamism and competitiveness. India in this context requires a comprehensive reforms package to harness optimum potential of its human resources crucial in achieving its socio-economic objectives. Below given some of the important suggestions recommendations to revitalize the education system.

- ✓ While access to qualitative professional higher education needs to be further expanded at the same time equity must be ensured by extending financial and academic support to poor and marginalized sections of the society.
- ✓ In order to increase access ICTs aided teaching and learning modules should be developed.
- ✓ Sufficient training programmes for faculty members should be conducted to adopt new skills and expertise to develop learning systems relevant and contemporary to the requirements of the 21st century.
- ✓ Quality assurance is key to sustainability of any system. As such, higher education system involving all its stakeholders with appropriate regulatory mechanism should

create conditions congenial enough for promotion of research, innovative and creative thoughts aiming to ensure high quality.

- ✓ International university networks and partnerships should be developed to promote high quality research and develop internationally competitive curricula and teaching practices and dissemination of innovative ideas.
- ✓ In view of dearth of public funds in a rapidly growing economy, higher education must be based on public-private partnerships model.
- ✓ Academic freedom both for teachers and students should be provided to realize academic excellence.
- ✓ Concerted efforts both at govt. and private level must be made to attract the best of the talents with a sound compensation package along with perks and amenities.

Conclusion

The increasing use of information and communication technologies (ICTs) has brought changes to teaching and learning at all levels of higher education systems (HES) leading to quality enhancements. Traditional forms of teaching and learning are increasingly being converted to online and virtual environments. There are endless possibilities with the integration of ICT in the education system. The use of ICT in education not only improves classroom teaching learning process, but also provides the facility of e-learning. ICT has enhanced distance learning. The teaching community is able to reach remote areas and learners are able to access qualitative learning environment from anywhere and at anytime. It is important that teachers or trainers should be made to adopt technology in their teaching styles to provide pedagogical and educational gains to the learners. 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.

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