Role of Information Communication Technologies in Education

Mohd Jameel

Research Scholars, Department of Education
Veer Bahadur Singh University, Jaunpur, U.P.

Abstract

Information Communication Technologies are the power that has changed many aspects of the lives. The impact of the ICT on each sector of the life across the past two-three decades has been enormous. The way these fields act today is different as compare to their pasts. Across the past twenty years the use of ICT has basically changed all forms of endeavour within business, governance and off-course education! ICT has begun to have a presence but unfortunately we are lacking to achieve desired impact. The education is a socially oriented activity. It plays vital role in building the society. The quality education traditionally is associated with strong teachers having high degrees. Using ICTs in education it moved to more student – centered learning. As world is moving rapidly towards digital information, the role of ICTs in education becoming more and more important and this importance will continue to grow and develop in 21st century. This paper highlights various impacts of ICT in education. The role of ICT in transforming teacher-centered learning to competency based learning.

KeyWords: Implementation, ICT, Online, Learning, Communication, Creatively

Introduction

The education has vital role in building the society. The quality education helps to empowering the nation in all aspects by providing new thoughts,the ways of implementation of various technologies and so many such things. The quality education is basic need of the society. There are number of effective teaching & learning methodologies in practice. Technology is the most effective way to increase the student's knowledge. Here comes the role of ICT in the education sector! Being an academician I cannot imagine education without ICT. Nowadays ICT (internet) plays imminent role in the process of integrating technology into the all educational activities.

ICT is an acronym that stands for "Information Communication Technologies". Information and communication technologies are an umbrella term that includes all technologies for the manipulation and communication of information. ICT considers all the uses of digital technology that already exists to help individuals, business and organization.

Requirements that were not met to the expected extent

In the 21st century also there are million people still out of school and many of them nearly are illiterate. What were the requirements that were not met to the expected extent? main points out some area regarding this.

1. The supportive policy context

The socio-economic context had changed drastically soon afterwards requiring an entirely different supportive context. The following six

changes have been mentioned as the most dramatic changes.

1. Dramatic developments in the life sciences with far-reaching implications.

2. The rapid development of the Internet as a pervasive lever of change for the organization of life, commerce, entertainment and education.

3. The emerging new economy based on intangible capital and calling for much increased adaptability to rapid change and a new repertoire of entrepreneurial capabilities and attitudes.

4. The political, social and economic shifts.

5. The voluntary and enforced movements and mixing of people and cultures.

6. The growth of poverty and increasing debt around citadels of increasing affluence, and the swift advance of economic and cultural globalization.

2. Technical Building Development Capacity

1. Formal schooling has been the main preoccupation in the field of education, entailing neglect of non-formal avenues of learning.

2. Many countries have been slow to redefine their educational needs, in particular concerning educational content reflecting cultural diversity and corresponding to the specific needs of each society.

3. The inequalities within education systems have been increasing, with the result that the poorest of the poor, minority groups and people with special learning needs have hardly been taken into account or may even have been excluded from the mainstream of education.

4. Early childhood education has shown little development and still favors the better-off urban populations, rather than those for whom an educational head start in life would be most beneficial.

5. The digital divide has marginalized the poorest social sectors even further, jeopardizing their chances of having the new information and communication technologies serve their specific needs.

3. Strengthening international solidarity

There has been sharing of experiences and valuable insights about strategies to achieve EFA in national, regional and international meetings. Whatever new knowledge had been gained, most of it has remained unutilized because of lack of resources as solidarity has been lacking in sharing of resources as mentioned above. Lack of sharing technology and the phenomenon of globalization have both, at least in the short term, widened the gap between the rich and the poor countries.

ICT is concern with the storage, retrieval, manipulation, transmission or receipt of digital data. The definition taken from the guidance in the QCA schemes of work for ICT is "ICTs are the computing and communication facilities and features that variously support teaching, learning and a range of activities in education."

Objectives of ICT Implementation in Education

1. Improvement in learning achievement;

2. Reduction of adult illiteracy rate, with sufficient emphasis on female literacy;

3. Expansion of provisions of basic education and training in other essential skills required by youth and adults;

4. Increased acquisition by individuals and families of the knowledge, skills and values required for better living and sound and sustainable development.

Role of ICT in Higher Education

1. To increase variety of educational services & medium

2. To promote equal opportunities to obtain education & information.

3. To develop a system of collecting &

disseminating educational information.

4. To promote technology literacy.

a. To support "Distance Learning".

b. To support sharing experience & information with others.

ICT as a Change Agent In Learning Process: Conventional Learning Process

In the process of conventional learning emphasis was given on contents. It follows the particular course structure / syllabus for many years. Accordingly the subject wise textbooks & reference books have been written. By using relevant material to the subject teachers supposed to teach through lectures and presentation. Teachers used their lesson plans, tutorials, different way of assessment to evaluate student performance etc.

Competent Course Structure

It is the need of the day to improve quality & structure of the syllabi by enforcing competency & performance based approach towards it. To include advance technology and practical approach is also on of the importance.

The role of ICT in the education at higher level recurring and unavoidable. It is challenge to integrate ICTs with Universities, into their strategies and educational process. It should be implemented at national & international level. It will be helpful to improve qualify and flexibility, the widening access to the field of education.

Change in The Way of Learning

We discussed ICTs are cause to make a move from a teacher centered learning to competency based learning. Universities are also responsible to make supporting changes in the way students are learning. Traditional way of learning is based on Tran missive modes. Use of ICT in education also affects the way students learning. The following points are particular forms of learning.

A. Students Centered Learning

With the help of technologies it is possible to promote transformation of education from teacher centered inst. To students centered institution.

1. Increased use of web as a source.

2. Internet users can select the experts from whom they will learn.

3. Process will become problem–based learning.

4. The proliferation of capability, competency and outcomes oriented curricula.

ICTs in education acts as a change agent. It supports independent learning. Students become immersed in the learning process by using ICT.

B. Construction of Supporting Knowledge

The emergence of ICTs as a learning technology unknowingly insists to think on alternative theories for learning. The conventional teaching process has focused on teachers planning and leading students through a series of instructural sequences to achieve desired outcome. This way of teaching follows the planned transmission of knowledge though some interaction with the content as a means to consolidate the knowledge acquision. It depends on the process of personal understanding. In this domain learning is viewed as the construction of meaning rather than memorization of facts. Use of ICTs provide many opportunities through their provision and support for resource based, student centered learning. It acts to support various aspects of knowledge construction and as more and more students.

The Impact of ICT on place 'When' & 'Where' to learn

In the past, there was no or little choice for students in terms of method & manner in which programs have been delivered. Students typically being forced to accept what has been delivered. ICT applications provide many options & choices in the same case.

A. Any place learning

The use of ICT has extended the scope of offering programs at a distance. The off-campus delivery was an option for students who were unable to attend the campuses. Today, many students are able to make this choice through technology – facilitated learning settings. In many instances traditional classroom learning has given way to learning in work-based settings with students able to access courses and programs from their workplace. The advantages of education and training at the point of need relate not only to convenience but include cost savings associated with travel and time away from work, and also situation and application of the learning activities within relevant and meaningful contexts. The communications capabilities of modern technologies provide opportunities for many learners to enroll in courses offered by external institutions rather than those situated locally. These opportunities provide such advantages as extended course offerings and eclectic class cohorts comprised of students of differing backgrounds, cultures and perspectives.

B. Any time learning

In case of geographical flexibility, technology, facilitated educational programs also remove the temporal constraints. It is the good opportunity for stud. To undertake education anywhere, anytime & any place. Through online technologies learning has become an activity that is no longer set within programmed schedules and slots. Learners are free to participate in learning activities when time permits and these freedoms have greatly increased the opportunities for many students to participate in formal programs. The wide variety of technologies that support learning are able to provide asynchronous supports for learning so that the need for real-time participation can be avoided while the advantages of communication and collaboration with other learners is retained. As well as learning at anytime, teachers are also finding the capabilities of teaching at any time to be opportunistic and able to be used to advantage. Mobile technologies and seamless communications technologies support 24x7 teaching and learning.

The role of ICT in enhancing the development of basic education and Literacy

We take the same broad definition of ICT to include radio, television, satellite, fixed and mobile telephone, fax, computers and CD-ROMs and the internet. The ICTs can be divided into two groups: traditional or old ICTs (namely, radio and TV) and the new ICTs (namely, the Internet and telecommunications). Learning through new ICTs is also called e-learning. Recent studies show the enormous potential of e-learning, especially in industrialized countries.

New educational approaches can be used. For example, faculty from anywhere in the world, faculty teams with different specialties can be put together and innovations of teachers can be shared along themselves for improvement and adaptation.

The Use of ICTs to support basic education

We shall examine below how and where ICTs, both new and old, can enhance education for all in developing countries. As in the case of higher education mentioned in the previous section, there are four ways ICTs can support basic education –

(i)   Supporting education in schools,

(ii)   providing non formal education for out-of-school children and adults,.

(iii) Supporting pre-service distance education of teachers and their in-service professional development

(iv)   Enhancing the management of schools. These are detailed below.

Supporting education in schools

ICT can provide access to information sources, enable communications, create

interacting learning environment and promote change in methods of teaching. Quality and access to up-to- date and relevant materials can be improved while offsetting some costs of textbooks. However, the improvement in quality resulting from the new ICTs is yet to be justified with the cost in developing countries. Radio is still the most cost-effective ICT for enhancing quality in school education. However, with the falling cost of hardware , maintenance and Internet access and increasing e extension of telecommunications and power infrastructure, it is expected that the benefits of using new technology in the schools of developing countries will exceed the costs.

Enhancing educational Management

In this area new ICTs are more relevant. Computer software programs are being used in time tabling and school management to improve the use of staff time, student time and space, thus reducing costs significantly. Only a few computers are necessary for this type of application. It is noted that ICTs in schools can improve quality with less cost. Old ICTs are still cost-effective for provision of education to out-of-school children and youth in developing countries. New ICTs have a very large potential for teacher education in larger quantity and better quality. If a nation wide network of community learning centers equipped with computer laboratories with broadband access and trained staff to access online distance learning and to provide tutoring support could be set up in developing countries until a computer is available at home, there are possibilities for these countries to take advantage of the benefits of e-learning mentioned above.

Conclusion

The role of ICTs in the education is recurring and unavoidable. Rapid changes in the technologies are indicating that the role of ICT in future will grow tremendously in the education.By observing current activities and practices in the education, we can say the development of ICTs within education has strongly affected on Learned. ICT also focuses modification of the role of teachers. In addition to classroom teaching, they will have other skills and responsibilities. Teachers will act as virtual guides for students who use electronic media. Ultimately, the use of ICT will enhance the learning experiences of students. Also it helps them to think independently and communicate creatively.

References

Bikas C. Sanyal,"New functions of higher education and ICT to achieve education for all", International Institute for Educational Planning, UNESCO, 12 September 2001

Bob Kerrey et al," The Power of the Internet for learning: moving from promise to practice."

Dahiya Surender S. 2004; Educational Technology, Towards Better Teacher Performance, Shipra Publications, Delhi.

Goel D.R. et. al. 2002; Information and Communication Technology in Education: Changes and Challenges; University News; A weekly Journal of Higher Education, Vol. 40, No.20, May 20-26, 2002.

Joanne Capper, "E-learning growth and promise for the developing world", In: "Tech Know Logia", May/June, 2001

Lebow, D. (1993). Constructivist values for instructional systems design: Five principles toward a new mindset. Educational Technology, Research and Development, 41(3), 4-16.

Soloway, E. & Pryor, A. (1996). The next generation in human-computer interaction. Communications of the ACM, 39(4),16-18.

Washington DC, "Report of the Web-Based Education Commission", December 2000.