USE OF EDUCATIONAL TECHNOLOGY IN PROMOTING DISTANCE EDUCATION

Dr. Muhammad RASHID
Uzma ELAHI
Preston University, Islamabad, PAKISTAN

ABSTRACT

Educational technology plays an important role in distance education system. By adapting new communication educational technologies in distance educational programmes their quality could be ensured. Instructions conducted through the use of technologies which significantly or completely eliminate the traditional face to face communication between teacher and students lead to distance education.

Now a days, media such as computer, artificial satellites, digital libraries, telephones, radio and television broadcasting and other technologies are presenting their potential for the purpose. Audio, video and print materials provide the base while internet is becoming cheap, fast and effective medium. Immense resources are already available on the web.

In addition, technology is rushing to bring in revolution in the filed of distance education. So in future, positive changes can be apprehended.

INTRODUCTION

Technology is embedded in our culture and we are immersed and dependent on it as well. It changes so rapidly and has such a pervasive impact that it is actually determining our culture. Michael Osit (2008) stated that:

> ***Children and adolescents are prime users and beneficiaries. Administrators and educators need to keep pace with life outside the classroom in order to integrate and access the wonderful learning opportunities the internet, ipods, cell phones, podcasting, and even social networking sites and video game play offer… Teaching in a didactic/lecture format no longer works, and it is not utilizing the power of technological advances. Teachers need to invite students to learn by using what they know best-tech gadgets.***

Educational technology is developing rapidly and is exhibiting many new characteristics. Riding and Rayner (1995) pointed out six characteristics of the superhighway and personal computers that are helpful to understand distance learning:

- **control of the mode of delivery and presentation rate;**
- **control of the order of presentation, pace of instruction and selection of learning activities,**
- **monitoring of learning performance, storing responses and conducting assessments**

- **provision of simulations which supply learning experiences in a variety of low-cost and risk-free topics;**
- **formation of a collaborative learning group by linking the learner to the instructor and to other students for support; and**
- **access to learning resources and assessment materials.**

Moreover, distance education technology has the responsibility of following functions. McCreary and Duren (1987) points ten educational functions of computer conferencing such as

- **the notice board,**
- **the public tutorial,**
- **the individual project**
- **free flow discussion**
- **the structured seminar,**
- **peer conferencing**
- **collective database**
- **group products**
- **community decision making and (10) inter-community network.**

According to Bola, B. (1994, p.2)

> ***"Educational technology consists of all modern media, methods and materials and needs to be used in a well integrated manner of maximising the learning experiences of students at various levels. It implies a behavioural science approach in teaching and learning and makes use of relevant scientific and technological methods and principles developed in psychology, sociology, linguistics, communication and other related areas."***

It further seeks to incorporate the management concepts of cost effectiveness, system approach and the efficient deployment and utilization of human as well as material resources. It helps in optimization of educational outcomes through the development application and evaluation of systems, methods, and techniques in the field of teaching and learning. It is not the electronic media only, it is a part of the whole and one of the components that constitute educational technology.

On the other hand distance education is emerging as a viable and vital force in educational delivery system in recent years, especially in higher education. Much of the growth comes from a rapidly growing demand for educational opportunities directed toward and designed for some specific target groups (Garrison, 1987).

Distance learning activities are designed to fit the specific context for learning, the nature of the subject matter; intended Learning outcomes, need and goals of the learner, the learner's environment and instructional technologies methods.

Apart form distance education, the field of educational technology was a 20th century movement with the major developments occurring during immediately after World War I I. Emphasis on audiovisual communications media according to Inoue, Y. and Bell, S.T. (2006, p.28), "gradually focused on the systematic development of teaching and learning procedures that were based in behavioral psychology." The technology is capable of bringing fruitful results in short period of time. It is such a vehicle which leads learners as well as teachers towards more clarity of concepts and ideas.

Moore, M. G. (2005, p.13) further adds that in England in vast majority of the schools 133,000 students receive instruction entirely at a distance through technology. More than 20 other countries have national Open Universities in which all instruction is provided by distance education methods.

TECHNOLOGY AND DISTANCE EDUCATION

Distance education is a field of education that focuses on pedagogy/Andragogy, technology and incorporated in delivering education to students who are not physically "on site" to receive their education. Instead, teachers and students may communicate asynchronously by exchanging printed or electronic media, or through technology that allows them to communicate in real time. Simonson, M.R (2006, p.35) further points that distance education courses that require a physical on-site presence for any reason including the taking of examinations is considered to be a hybrid or blended course or program.

The practice of distance education has dramatically changed since the early 1990s. Educators are using technology to increase the distant learner's access to the local classroom, to improve access of all learners to resources and to make the experience of the remote student comparable to that of the local learner. According to Moore, M.G (2005, P.7)

> ***"Distance education no longer relies heavily as it used to on the delivery of point and broadcast media technologies. Recent innovations in hardware, software and internet technologies have made communications based distance education systems more available, easier to use and less costly."***

Technology is an important factor in distance education. For the communication purposes different types of technologies are used. Rumble (1994) said that four media namely print, audio, television, computers are available for teaching purposes, in one technological form or another. Electronic publishing will be a major development in distance education.

Over the next decade, it would expect at least 70% of the various steps in publishing to be carried out electronically in most European distance teaching institutions. Every learner is acquainted with text books as a potential print-based study material (Bates, 1994). Finally Islam (2005) added that the distinction between media and technology is a useful one.

A medium is a generic form of communication associated with particular ways of presenting knowledge.

There are five important media in education namely direct human contact (face to face), text (including still graphics), audio, television and computing. The use of each medium gives both variety and chance of accommodating different learning styles.

SKILLS REQUIRED FOR EFFECTIVE PARTICIPATION IS DISTANCE EDUCATION

As distance education is a different mode of education. So different skills are required which lead it towards success. In this context the first one is the ability to use the media for example a student of distance education, who wants to be benefited from the web must know the use of computer at first hand, in order to discover quality content.

Independent study skills come at the second place. Activities such as time management, personal class involvement and peer group support comes under these skills. For Bansal, A. (2004, p.43) Distance students prove themselves successful in all these skills. As Distance education is not for everyone, because the focus of responsibility shifts to the pupil from the teacher. Students who work independently, who are excellent time managers, who are comfortable with the technology and who do not feel a strong need for face to face interaction with instructors or fellow students can prosper in distance education. It shows that independent study skills are equally important as of media skills.

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USE OF DISTANCE EDUCATION AROUND THE WORLD

All over the world distance education put a strong and varied impact. In fact, education system now days needs the support of distance education to meet the demand of public enthusiasm about education. The following are the certain examples in this context.

Sub-Saharan African countries are surely facing tremendous problems in the field of education. There is shortage of classrooms on one hand and lack of teachers beside instructional material on the other. In this grim situation, Michael R. Simonson, recommends a solution by saying that "distance education has the potential to contribute to national reconstruction by providing economically feasible educational opportunities to people in disparate geographic regions."

In China the population growth rate is very high beside the cost of higher education. The only solution of such problems was the establishment of the national distance learning program for higher education in the last decade of nineteenth century. In the end of 1970's and the start of 1980's the Chinese government developed a national radio and television university system to meet its goals of high education.

In European countries such as Spain, France, UK, distance education got deep roots now. Many programs were offered to the public at large not only for education purpose but for training too in such countries.

In United States the graph of distance education is going upward with the use of new technologies as Michael R.Simonson stated that:

E-mail has electronic bulletin boards and interactive computer networks now augment or replace mail carries in delivering curricular materials, text books and examinations to distance learners. Now transmission media capable of providing two-way full motion, live interaction between the student and teacher are increasingly replacing to interactive, one way systems.

Finally, Turkey has recently joined the category of such nations which is using distance education for learning purposes. Though their distance education plant is only of twelve years but has enrolled almost one million students, annually. It shows the effectiveness of distance education. In shorter period of time fruitful results can be acquired by harnessing technology.

HOW DISTANCE EDUCATION MEET ITS GOALS?

Distance Education methods of instruction that utilize different communication technologies to carry teaching to learners in different places. As Lockmiller, D.A. (2005) stated:

> ***Distance education programs enable learners and teachers to interact with each other by means of computers, artificial satellites, digital libraries, telephones, radio or television broadcasting or other technologies. Instruction conducted through the mail is often referred to as correspondence education*.**

Each medium and each technology for delivering it has its own strengths and weaknesses. One of the worst mistakes an organization or an instructor can make it to become dogmatically committed to delivery by an single medium. Roschelle, pea, Hoadley, Gordin and Means (2000) identify four fundamental characteristics of how technology can enhance both what and how children learn in the classroom;

(1) active engagement
(2) participation in groups
(3) frequent interaction and feedback and
(4) connections to real-world contexts. They also indicate that use of technology is more effective as a learning tool when embedded in a broader education reform movement that includes improvements is teacher training, curriculum, student assessment and a school's capacity for change.

In the same context Hassain, I (2004, P.13) comments that:

> ***The distance education universities all over the world are exploring and making the best use of new technologies such as computer, internet and world wide web. Teleconferencing, educational television and other computer related technologies to make the education more productive... so that the distance learner may interact with their fellow learners and tutors.***

WEAKNESSES AND STRENGTHS OF APPLYING TECHNOLOGY

Everything has its strengths and weaknesses but this can be covered with the positive handling of any instructor/tutor/teacher. Anyhow in distance education environment, technology has the following advantages:

- **Accessibility and flexibility to be used anytime, anywhere.**
- **Less costs as far as internet facility is concerned**
- **Broader view of possibilities for the use of technology.**
- **There are unlimited resources in the context.**
- **Use of technology to literate people through computer.**

For Michael osit (2008) technology put the following positive effects:

- **Supportive in students achievement**
- **Improve professional abilities**
- **Fulfill special needs**
- **Encourage continuing education**
- **Provide workforce skills**

On the other hand, there are also some problems which are faced in distance education situation in the use of technology such as:

- **High cost of technology.**
- **Mostly people are unfamiliar with technology.**
- **Problems with technology such as server down, internet connection failures, individual problems etc.**

Due to all of them learning surely is affected. A distant learner who is already going away from the learning boundries and dejected one will hardly accommodate or motivate himself to stay longer on with education. However, this position can be cleared out by a vigilant teacher.

FUTURE OF EDUCATIONAL TECHNOLOGY IN DISTANCE EDUCATION

There is no doubt in the fact that the future of educational technology in education is very bright. This is further recommended by James L. Morison (2009) in his article entitled "The role of Technology in Education Today and Tomorrow" i.e. wireless high-speed networks will be common.

> ***Multimedia and three dimensional modeling, now in their infancy, will show up in more parts of the curriculum. The technologies coming to market over the next decade or more likely to enhance what faculty already to rather than fundamentally change faculty behaviors and practices.***

Keeping in view Rashid, M (2010, p.25) stated that AIOU has replaced its old technology through investing 380 millions rupees. Presently the previous facilities at AIOU are upgraded to the level of international institute of communication technology. Allana, G.A. (1985) suggests on distance education, multimedia is like "a land of contracts." Now here these are more evident than in the technologies used by distance teaching institutions. With great promise for the future, in principle, it implies a commitment to increase accessibility, to a vast variety of audience. "Moreover, R.Mc Corn (1984) confirmed that "Most educators would now agree that broadcast media have a valuable role to play in education. Even within the context of formal education, broadcasting has been used both in institutional settings and in people's own homes." Moreover, in a 2000 study commissioned by the software and Information Industry Association, Sivin-Kachala and Biolo (2000) reviewed 311 research studies on the effectiveness of technology on student achievement. Their findings revealed positive and consistent patterns when students were engaged in technology- rich environments, including significant gains and achievement in all subject areas and improved attitudes toward learning and increased self-esteem.

CONCLUSION

The technology revolution increased the need to educate great number of people. Hellman, J. A (2003, P5a) admits that distance education is apparently offering a big potential to its students as well as facilitators.

It can provide a high quality education via a diverse technology and media formats. So distance education is essential to the population which is not able from various reasons to attend traditional classroom courses.

In order to successfully implement distance education one must cautiously consider many aspects of distance education such as students needs must be carefully balanced with the curriculum and the learning environment, teacher must serve as a supportive element who can ensure effectiveness of distance learning module and finally, selection of most appropriate technology should be done to exchange its materials.

In examining large scale state and national studies as well as some innovative smaller studies on never educational technologies, Schacter (1999) found that students with access to any of a number of technologies such as computer assisted instruction, integrated learning systems, simulations and software that teaches higher order thinking, collaborative networked technologies or design and programming technologies show positive gains in achievement.

The materials can be in written format (print, e-mail etc), video or audio format and computer based. Due to the proper handling of technology Counts, J (1996, p.122) points that assuming the societal changes brought, by micro electronic technologies would have greater implications for changes in educational programmes than would the instructional potential of these technologies. It shows that distance education has a bright future.

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