IMPACT OF INFORMATION TECHNOLOGY AND INTERNET ON OPEN AND DISTANCE LEARNING

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ABSTRACT

Distance education is an alternative mode for receiving higher education, professional education and technical education, which distinguishes it from conventional campus, based mode of learning. Thispaper deals with impact of information technology and internet on open and distance learning. In recent years, educators have witnessed the rapid development of information technology, computer networks and dramatic improvements in information handling, retrieval and communicating process. These developments have made the information technology and computer a dynamic force in distance education, providing a new and interactive means of overcoming time and distance to reach learners. Thedifferent approaches of learners and roles of Video Conferencing and Mobile Phones have been also discussed in this paper.

KEY WORDS: *Internet, www, Distance Education, ICT, Mobile phones, Television.*

INTRODUCTION

We are living in a period characterised by change. The globalisation of the economy, information and advanced technologies are factors that characterise the end of this century. Education is accompanying these changes and nowadays the ability to learn and lifelong learning is becoming more and more important.

In today's Information Age, learning is no longer confined within the four walls of a classroom. The instructor, armed with a textbook, is no longer the sole source of educational experience. Information resources are everywhere, often separated from the learner by time and space. Distance learning defines the process of connecting learners with these remote resources.

Learning is a lifelong pursuit where training and retraining become strategies for both individual and corporate success. Distance learning uses communications technologies to harness the vast array of resources available and stimulate the development of lifelong learning skills. A variety of technologies are used for distance learning, including video, audio, computer, audio graphics, and print.

There are a variety of distance learning solutions for every educational need. Distance learning applications should begin with a clear understanding of the learner, as well as the educational needs and objectives of the organization. Technology options can then be considered that best address those understandings. A comprehensive distance learning solution will often be

a combination of technology options, creating a set of learning tools that meet the needs of both the instructor and the learner.

DISTANCE EDUCATION

There are many definitions regarding the term of distance education, involving the educational access, closely related to the information technology and communication infrastructure.

The California Distance Learning Project's definition is: "Distance Learning (DL) is an instructional delivery system which connects learners with educational resources. DL provides educational access to learners not enrolled in educational institutions and can augment thelearning opportunities of current students. The implementation of DL is a process which uses available resources and will evolve to incorporate emerging technologies."

As defined by Michael Moore, then director of The American Center for the Study of Distance Education, Penn State: "Distance education is planned learning that normally occurs in a different place from teaching and as a result requires special techniques of course design, special instructional techniques, special methods of communication by electronic and othertechnology, as well as special organizational and administrative arrangements".

The ITC (*Instructional Telecommunications Council*) definition is: "The process of extending learning, or delivering instructional resource-sharing opportunities, to locations away from a classroom, building or site, to another classroom, building or site by using video, audio, computer, multimedia communications, or some combination of these with other traditional delivery methods."

Distance education became significant because of if its divergence from the common centralized school model by bringing the school to the student instead of sending the student to the school. Distance education became successful because it filled a need generated by an increasing number of nontraditional students. The potential audience for distance education is much more varied and much larger than any educational establishment estimated.

DIFFERENT APPROACHING LEVELS

In the history of distance education there was different approaching levels, such as:

CORRESPONDENCE EDUCATION :

Distance education is not a new phenomenon; it has been a mode of teaching and learning for countless individuals for at least a hundred years. Before the widespread use of electronic communications, educators used print technology, and the postal service for what became known as correspondence education.

EDUCATIONAL RADIO :

With the advent of broadcasting, the federal government issued the first educational radio license to the Latter Day Saints' University of Salt Lake City, in 1921. The University of

Wisconsin and the University of Minnesota also received licenses to establish educational radio stations in 1922. (Saettler, 1990). Levenson (1945) listed a series of evaluation studies conducted by Ohio State University and The University of Wisconsin as early as 1931 to demonstrate the effectiveness of radio in learning. The number of studies listed and the variety of research questions are indicative of the ubiquity and popularity of the use of radio in education. For example, research questions ranged from the "relative effectiveness of short and long sentences,"to "the value of repetition in the presentation of different types of material" to development of new instrument of evaluation.

EDUCATIONAL TELEVISION

Iowa State University applied to the Federal Communication Commission (FCC) for an educational television (ETV) license in 1945, and became the first ETV broadcaster in the world, as it commenced televising educational programs in 1950. Since the mid-1980's the attention shifted to the use of computer networks for teaching and learning. As the National Science Foundation (NSF) provided access for universities to the Internet, educators gained a powerful means for teaching and learning, which was radically different with previous electronic media. Arrival of networked computing to higher education, the place of work, K-12 schools, and even homes did not come a moment too soon, since towards the late 1980's, and in early 1990's families, institutions, societies, and relations among nations were going through rapid change. Novel solutions were required to meet the demands of the changing social institutions.

APPROACHING THE 21ST CENTURY

In the 21st Century, a synergy among technologies has brought unprecedented added value to the products of many companies, and has reduced the cost of production and distribution of goods and services due to a fundamental change of the economy, as the world economy is becoming more reliant on knowledge bases for increased productivity. Today information technology is very essential for providing education through distance learning.

COMPUTERS IN DISTANCE EDUCATION:

In recent years, educators have witnessed the rapid development of computer networks, dramatic improvements in the processing power of personal computers, and striking advances in magnetic storage technology. These developments have made the computer a dynamic force in distance education, providing a new and interactive means of overcoming time and distance to reach learners.

THE INTERNET AND DISTANCE EDUCATION:

The Internet is the largest, most powerful computer network in the world. It encompasses 1.3 million computers with Internet addresses that are used by up to 30 million people in more than fifty countries. As more and more colleges, universities, schools, companies, and private citizens connect to the Internet either through affiliations with regional not-for-profit networks or

by subscribing to information services provided by for-profit companies, more possibilities are opened for distance educators to overcome time and distance to reach students.

With access to the Internet, distance educators and their students can use:

1 **ELECTRONIC MAIL (e-mail) -** Like postal mail, e-mail is used to exchange messages or other information with people. Instead of being delivered by the postal service to a postal address, e-mail is delivered by Internet software through a computer network to a computer address.

2 **BULLETIN BOARDS -** Many bulletin boards can be accessed through the Internet. Two common public bulletin boards on the Internet are USENET and LISTSERV. USENET is a collection of thousands of topically organized newsgroups, covering everything from supercomputer design to bungee cord jumping, and ranging in distribution from the whole world to single institutions. LISTSERV also provides discussion forums on a variety of topics broken out by topic or area of special interest.

3 **WORLD-WIDE WEB (WWW) -** The WWW provides Internet users with a uniform and convenient means of accessing the wide variety of resources (pictures, text, data, sound, video) available on the Internet. Popular software interfaces, such as Mosaic and Netscape, facilitate navigation and use of the WWW. The central organizing feature of the WWW is the "home page". Every organization and even every individual user of the WWW can create a home page that contains whatever information they want to present. The hypertext capabilities of the WWW facilitate linking of information within your ownhome page and with all other home pages on the WWW.

INSTRUCTIONAL POSSIBILITIES OF THE INTERNET:

Distance educators can use the Internet and WWW to help students gain a basic understanding of how to navigate and take full advantage of the networked world into which they will begraduating. Some instructional possibilities of the Internet include:

1. Using e-mail for informal one-to-one correspondence. Feedback from the instructor can be received more quickly than messages sent by mail. Students can read messages at their convenience and easily store them for later reference.
2. Establishing a classroom bulletin board. Distant students often work in isolation without the assistance and support of fellow students. Setting up a class bulletin board can encourage student-to-student interaction. With a class computer conference, individual students can post their comments or questions to the class, and every other individual is free to respond. The conference can also be used to post all modifications to the class schedule or curriculum, assignments/tests, and answers to assignments/tests.
3. Engaging students in dialogue with other students, faculty, and researchers by encouraging them to join a bulletin board(s) on topic(s) related to the class.
4. Developing a classroom home page. The home page can cover information about the class including the syllabus, exercises, literature references, and the instructor's

biography. The instructor can also provide links to information on the WWW that would be useful to students in the class (e.g., real research data on agricultural markets, global climate change, or space missions). Other links could access library catalogs or each student's individual home page.

INTERACTIVE VIDEOCONFERENCING AND ITS TECHNOLOGY:

Interactive Videoconferencing (IV) is an effective tool that may be used in distance education settings. This system can be integrated into the distance education program with minimal adaptation to the curriculum and course and is designed to support two-way video and audio communication between multiple locations.

Most IV systems utilize compressed digital video for the transmission of motion images over data networks such as high capacity Integrated Services Digital Networks (ISDN). The video compression process decreases the amount of data transmitted over the lines by transmitting only the changes in the picture. By minimizing the bandwidth required to transmit the images, video compression also reduces the transmission cost.

Interactive videoconferences are often transmitted on dedicated T-1 phone lines. These high speed lines are very effective for videoconferencing, but they are typically leased circuits with an expensive monthly cost. The fixed monthly charge is usually based on distance, not usage. Therefore, the cost effectiveness of IV systems increases with use. Interactive videoconferencing systems can operate at different data rates, at various fractions of T-1 capacity, enabling the transmission of multiple simultaneous videoconferences over the same T-1circuit. An IV system can also share a T-1 circuit with other digital data uses such as Internet transmissions or file transfers.

USE OF MOBILE PHONES IN OPEN AND DISTANCE LEARNING:

Mobile Phone, especially Short Message Service (SMS) technology has the potential to be a cost-effective tool for this purpose. Presently this technology is accessible to a large section of the Indian society and most of the people are using SMS mainly for personal and business communication purposes. There is a greater potential for this technology to be used in more productive ways as ODL (Open and Distance Learning).

Mobile phones, either prepaid or postpaid services, are cheaper and more easily available than fixed landline phones. SMS offers a mode of communication that is within the reach of almost everyone, when compared to computers and the Internet, the uses and effects of which on education are already well documented.

Mobile phone can be used by the tutor to clarify academic doubts, give clarifications on assignments or preparation for an examination. ODL students have frequent needs for information from their institutions about timetable; due dates for assignment submission and examination fee, feedback from their tutors, and any such information. Nearly all the student’s

carry this sophisticated communication device, mobile phone, which can be effectively used in their life.

At short notice, if a lecture or practical activity has to be conducted or cancelled, the university or study centre can communicate to the student body concerned by SMS. As everyone knows this is an efficient means of communication, all the students will receive and read the messages, and none will be inconvenienced. This way, either to the whole student body or to select students of a faculty or a department or a class grouping, the message can be sent.

The researcher explores the possibility of using mobile phoning technology to promote tutor – learner interaction in ODL system.

CONCLUSION

Distance Education has considerably overcome inequities and democratized education in a big way. It has made higher education much more accessible to all sections of the society in all parts of the country. This tremendous task has been achieved with the help of Information Communication Technologies (ICTs) which make use of resources like computers and telecommunications over electronic networks such as the Internet. ICTs make it possible to meet every individual's fundamental right to learn and access education which could also be open.

ICTs help in collaborative learning, there being the desired need for Distance Education institutes to collaborate between themselves and also the greater need for collaboration between the tutor and student and also amongst the student's own peer group. This can be best achieved through the electronic mail where the student can question and the teachers respond as quickly as possible.

ICT reduces the risk of delay of all paper losses taking place due to the postal system. Distance Education Institutes can be the pace setters for even the conventional Universitieswhere students are always in the search for prepared materials. By providing materials online through registered sites, Distance Education institutes can be of immense help to the classroom learner as well as a learner of some other Distance Education University.

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