

# Challenges and Role of Information Communication Technology Practices in Modern Distance Education System

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**Abstract**— Education birth of every human (Still a dream); Distance Education with the help of Information Communication Technology can make this dream come true. Information Communication Technology (ICT) is making it possible for individual to pursue education in the very room he/she lives in though distance mode. This is all because of the latest developments in the field of computer technology. It is redefining both the teacher and the learner. This paper first gives an overview of the state of art in the distance learning domain and its recent evolution. Within this frame we will discuss the educational use of information Communication Technology. Furthermore this paper examines and discusses theoretical aspects concerned with the educational use of ICT.

**Index Terms**—About four key words or phrases in alphabetical order, separated by commas.

## I. INTRODUCTION

Within a context of rapid technological change and shifting market conditions, the education system is challenged with providing any increasing educational opportunities without any increasing budgets. Many educational institutions are answering this challenge by developing distance education programs. At its most basic level, distance education can take place when the teacher and the student(s) are separated by physical distance, and technology (i.e. voice, video, data and print), often in cert with face-to face communication is used to bridge the instructional gap.

## II. EDUCATION IS CHANGING FOR FOLLOWING KNOWN REASONS

During the last decade things have change incredibly- the number of unemployed workers have increased dramatically and all this work force needs to be retrained, the social and economic contexts have change, so has the definition of knowledge it has become form of camouflage, its life is becoming shorter and shorter.

“Change is the only Constant” in market, companies need to chance individual need to change, employees need to be trained and retrained. Investing in the human resources seems to be the only way out, all this because the market is changing [5]. In this frame, distance education is future.

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## III. EVOLUTION AND MAIN FEATURES OF DISTANCE EDUCATION

The distance learning can be categorized by the following key features

### A. Teaching V/s Learning

There is a new vision developed during the past 15-20 years, strong influenced by the social and cognitive sciences. The educational system is now focused on learning rather than on teaching. The developments in learning methodology have changed the nature of learning and perception of the learner. Knowledge is considered as “Socially constructed through action, communication and reflection involving learners”[1][4]. In addition, the classical view of teaching as telling or delivering curricula has turned into “modeling expert practice and promoting learning conversation that negotiate meaning to promote change in learner concepts and strategies towards provident performances”. For instance teachers then will gradually become advisors, manger and facilitators of the learning rather than providers of information. Necessarily, distance education has been involved by this evolution.

### B. Closed Distance learning v/s open Flexible distance learning we can basically categorize Universities into two types

- Closed University
- Open University

In the first form of University you need to have crossed some age limit and must have passed certain examination for the matter for fact Higher Secondary (10+2), but in second case one does not have to face such restraints as faced in closed universities. The open Universities philosophy is grounded on: access, curriculum and program, study organization and management, duration and flexible time-tabling.

## IV. ROLE OF COMPUTERS IN DISTANCE EDUCATION

In recent years, educators have witnessed the rapid development for 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. Computer Applications for distance education fall into four broad categories.

- *Computer Assisted Instruction (CAI)* – Uses the computer as a self-contained teaching machine to

present discrete lesson to achieve specific but limited educational objectives. There are several CAI modes, including: drill and practice, tutorial, simulations and games and problem solving.

- *Computer Managed Instruction (CMI)* – Uses the computer branching storage, and retrieval capabilities to organize instruction and track student records and progress. The instruction need not to be delivered via computer, although often CAI (the instructional component) is combined with CMI.
- *Computer mediated Communication (CMC)* – Describes Computer Applications that facilitates communication. Examples include electronic mail, computer conferencing, and electronic bulletin boards.
- *Computer Based Multimedia-* HyperCard, hypermedia, and still developing generation of powerful, sophisticated, and flexible computing tools have gained the attention of distance educators in recent years. The goal of computer based multimedia is to integrate various voices, video and computer technologies into a single easy accessible delivery system.

#### V. ADVANTAGES OF COMPUTERS IN DISTANCE EDUCATION

- Computers can facilitate self-paced learning. In the CAI mode, for example, computers individualize learning, while giving immediate reinforcement and feedback.
- Computers are a very important multimedia tool. With integrated graphic, print, audio and video capabilities, computers can be effectively linking various technologies. Interactive video and CD ROM technologies can be incorporated into computer based instructional units, lessons, and learning environments[2].
- Computers are interactive Microcomputer systems incorporating various software packages are extremely flexible and maximize learner control.
- Computer technology is rapidly advancing. Innovations are constantly emerging, while related costs drop. By understanding their present need and future technical requirements, the cost conscious educator can effectively navigate the volatile computer hardware and software market.
- Computers increase access Local, regional, and national networks link resources and individuals, wherever they might be. In fact, many institutions now offer complete undergraduate and graduate programs relying almost exclusively on computer based resources.

#### VI. THE INTERNET AND DISTANCE EDUCATION

The internet is the largest most powerful computer network in the world. It encompasses millions of computers and billions of people in more than 120 countries. As more and more colleges, schools, Universities, companies and private citizens connect to the Internet either through affiliation 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 [3]. With the access to the internet, distance educators and their students can use.

- *Electronic Mail:* Like postal mail email is also used to exchange messages or other information with people. Instead of being delivered by the postal service to a postal address, email is delivered by Internet software through computer network to a computer address.
- *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 from the whole world to single institution. LISTSERV also provides discussion forums on a variety of topics broken out by topic or area of special interest.
- *World Wide Web (WWW)* - The WWW is an exciting and innovative front end to internet. Officially WWW is described as a wide hypermedia information retrieval initiative aiming to give universal access to a large universe of documents. The WWW provides Internet users with a uniform and convenient means of accessing the whole variety of resources (Pictures, text, sound and video) available on the Internet. Popular software interfaces such as Mosaic and Netscape, facilitate navigation and use of WWW. The central organizing feature of 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 own home page and with all other home pages.

#### VII. LIMITATIONS OF COMPUTERS IN DISTANCE EDUCATION

- Computer Networks are costly to develop. Although individual computers are relatively inexpensive and the computer hardware and software market is very competitive. It is still costly to develop instructional networks and purchase the system software to run them.
- The technology is changing rapidly. Computer Technology evolves so quickly that the distant

educator focused solely on innovation “not meeting tangible needs” will constantly change equipment in an effort to keep pace with latest technical advancements.

- Wide spread computer literacy still exists, while computers have been widely used since 1960’s there are many who do not have access to computers or computer networks.
- Students must be highly motivated and proficient in computer operation before they can successfully function in a computer based distance learning environment.

### VIII. CONCLUSION

Information Communication Technology practices in distance Education provide unlimited access to teachers. Internet Phone calls, emails, chatting etc. have given a new dimension in teaching learning process. Good Education can make or break your future and certainly technology, if used in a proper way of teaching can pave way for better future where there will be classes but virtual ones.

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