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Challenges of Education and Role of Modern Technology in Distance Education

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ABSTRACT

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. This papers deals with challenges of education and role of modern technology in distance and open learning. The paper also discusses the role of ICTs and computers in the era of globalization.

Keywords : Distance Education, ICT, Education, Career, Computer, Information Resources.

I. INTRODUCTION

Distance education is a method of indirect instruction, lifelong education or continuing education. It implies geographical and emotional separation of the teacher and the taught. Distance education has opened the portal of universalisation of education, as education has made accessible to all respects of financial, social, psychological condition. It's primarily self learning based on part time or whole time basis. He achieves goal by himself sitting at home or in study centres with the help of printed material, visual aids and other media. It is cost effective. According to **Dohman**, "Distance education is a systematically organized form of self study in which student counseling the presentation of learning material and the seeing and supervising of the student success is carried out by a team of teachers each of whom has responsibility. It is made possible at a distance by means of media , which can cover long distance .

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 other technology, 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 is an alternative mode for receiving highest education, professional education and technical education, which distinguishes it from conventional campus, based mode of learning.

1. NATURE OF DISTANCE EDUCATION

1. In distance education, an institution teaches. The teacher prepares the learning materials from which he himself may never teach. Another teacher may use the material and evaluate students work.
2. The goal of linking learning materials to learning is at the centre of the organizational structure.
3. It gives new meaning to the concept of the independence of the adult learner.
4. Management skills are essential.
5. The constant processes of writing creatively for distance students, whether alone or in a course team framework, poses problems to staff causing depersonalization

2. CHALLENGES FOR EDUCATION IN PRESENT SCENARIO

Two fundamental characteristics of a modern society are complexity and change. Together, these characteristics put increasing demands on the education needed for the citizens to cope with their life in the society. These demands are as under:

1. General level and quality:

There are increasing demands on the general level and quality of education. This is not only a question of the number of years spent in the initial education system, or the number of graduates in relation to the population. The initial education must establish a broad and general level of competence, relevant to modern society and sufficient to form the necessary basis for continuing learning activities during the whole lifespan.

2. Updating and retraining:

Since modern societies require adaptability in many dimensions, education and training must develop ways to cope with the increasing needs of updating and retraining, as well as the need of mastering completely new situations and developments. These needs will concern people regardless of previous education, age, job, and social situation.

3. Multiple competences and careers

People increasingly tend to develop multiple competences across traditional subject oriented or occupational borderlines. Multiple careers also become usual and increase the demand of education regardless of age. In almost all modern societies there is a tendency that the average age of the student population in higher education is rising, and so is the proportion of part-time students with work experience. These students have other and more autonomous study habits, and require other forms of teaching than younger students. There is also a need for more flexibility and alternative organisation of study programmes.

4. OPEN AND DISTANCE LEARNING AS A SPECIAL SCOPE OF EDUCATION

The term open and distance learning embraces an increasingly diverse range of education and training activities. The most important common feature of these methods is that course contents, information, data, the learning instructions as well as the means for evaluating and assessing acquired knowledge are printed or recorded on different media in a methodically elaborated way: e.g. on printed materials, audio and video-cassettes, computer memories, floppy discs, CD-s. The course materials can also be available via information networks. These media - among which the dominant ones are still paper based materials - allow the effective independent study of students.

The role of the teacher is inevitable in the distance learning process, although this role differs basically from that in traditional education. It is not the teacher who is the main transmitter of course content since the latter is available on different media prepared by other experts, using efficient pedagogical methods. The task of the

teacher is to answer questions, to motivate students, to promote, facilitate and - if necessary - to control their learning, to establish co-operation and interaction between the students, and to evaluate the acquisition of knowledge. In this educational form, the teaching process is clearly separated in two parts carried out in general by different groups of experts: the first one is the preparation of course materials, - this is a long-lasting activity of expert groups; - the other is the process of course delivery, which is the task of other groups of experts (tutors, course organisers).

The application of curricula transmitted by different media, the method of learning without the presence of a lecturer, the changed role of the teacher, and the dominance of independent learning offer a degree of freedom and flexibility for the student - regarding the content of the curriculum, and the pace and place of learning - that is impossible in traditional education. This flexibility does not only allow the students to actually take part in distance education - namely to learn geographically far away from his/her teacher and school - but, relying also on the pedagogical potential offered by the use of different media (interactivity, motivation, demonstration, methodically elaborated course materials, thorough tutoring, quality control), flexible learning methods can be applied as a particularly effective means of human resource development and can also be effectively combined with traditional education.

An important feature of distance education is the efficient combination and interaction of traditional academic components: scientific and practical knowledge/skills, pedagogical values, cultural context, background and activities, and similar elements to the process of industrial production: needs analyses, investments, allocation of resources, planning, economy, team-work, organisation, well structured, systematic activity, quality assessment and control, marketing, management, etc.

5. DISTANCE LEARNING AND MODERN TECHNOLOGY:

It is said earlier that one of the driving forces behind the expanded role of distance education in modern society is the technological development. We should stress this point with a certain hesitation, because there is a tendency to associate distance education only with the more advanced types of technology. It is said, that it is a dangerous tendency. Our fascination aroused by technological visions and possibilities may prevent us from designing distance education systems and programmes in a way that can enable distance education to play its fundamental roles. In distance education as in other sectors we need appropriate technology more than visions of the future.

On the other hand, modern Information and Communication Technologies (ICTs) have given us a broader range of options than we had some years ago, and new options will certainly arrive in the future. But this fact does not always make the old technologies obsolete. Books, correspondence tuition, radio and television, audio cassettes, telephone they are all quite old media, and will nevertheless survive into the next century. Fax, video cassettes, optical storing media, electronic mail, computer conferencing and video teleconferencing they are all here at the moment, but they will need many years still to attain a dominant position in distance education, if they ever will. Most of them will not replace the old media, but supplement them and enrich the total range of information and communication media available in distance education.

Every time we introduce a new technology in a distance education system, we run the risk of introducing a new barrier to participation and learning. Therefore, we will often have to wait for years while the technology penetrates the society and spreads to all the working places and homes where distance learning programmes

must be available for individual use. Computers are very useful devices for managing and providing distance education.

6. 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.

Computer applications for distance education fall into four broad categories:

1. **Computer Assisted Instruction (CAI)** - uses the computer as a self-contained teaching machine to present discrete lessons to achieve specific but limited educational objectives. There are several CAI modes, including: drill and practice, tutorial, simulations and games, and problem-solving.
2. **Computer Managed Instruction (CMI)** - uses the computer's branching, storage, and retrieval capabilities to organize instruction and track student records and progress. The instruction need not be delivered via computer, although often CAI (the instructional component) is combined with CMI.
3. **Computer Mediated Communication (CMC)**- describes computer applications that facilitate communication. Examples include electronic mail, computer conferencing, and electronic bulletin boards.
4. **Computer-Based Multimedia**- HyperCard, hypermedia, and a 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 voice, video, and computer technologies into a single, easily accessible delivery system.

7. ADVANTAGES OF COMPUTERS:

1. Computers are a multimedia tool. With integrated graphic, print, audio, and video capabilities, computers can effectively link 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.
3. Computers can facilitate self-paced learning. In the CAI mode, for example, computers individualize learning, while giving immediate reinforcement and feedback.
4. 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.
5. Computer technology is rapidly advancing. Innovations are constantly emerging, while related costs drop. By understanding their present needs and future technical requirements, the cost-conscious educator can effectively navigate the volatile computer hardware and software market.

8. LIMITATIONS OF COMPUTERS:

1. Widespread computer illiteracy still exists. While computers have been widely used since the 1960's, there are many who do not have access to computers or computer networks.
2. Students must be highly motivated and proficient in computer operation before they can successfully function in a computer-based distance learning environment.
3. 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.

9. CONCLUSION:

We are living in the age of information technology. We should found new ways of information communication. In present scenario computers are the most powerful device for the same. In the 21st Century, a synergy among technologies has brought unprecedented added value to the information 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.

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