



COMPUTERS ARE TOOL OR SUBJECT IN TEACHER EDUCATION

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INTRODUCTION

Education seems attracted by the promise and potential of technology. From the advent of films in the 1920s to television in the late 1950s, computers in the 1980s, and information technology in the 1990s, the public has heard of great expectations from the use of new technologies that might enhance learning and instruction. One of the most significant shifts in the way that technology is being used in education today is toward greater use of computers and other devices as tools in the learning process rather than as instructional delivery devices.

Computers have become a familiar sight in institutions of higher education. Although computers appeal to the users for their significant features both as physical and intellectual tool in educational activities, limited applications are attempted as they warrant the imagination of the users. Used well, technology applications can support higher-order thinking by engaging students in authentic, complex tasks within collaborative learning contexts.

COMPUTER APPLICATIONS

Computers have developed rapidly over the past quarter century, and particularly over the past ten years in India. They have become more powerful (that is, able to process and store much more data), faster, cheaper, smaller, easier to use and more convenient. Using equipments such as CD-ROMs, laser disks, headphones and printers, a computer

programme can handle sound, pictures and video and optimum utilization can be ensured in an academic environment.

People who need to enrich their knowledge effectively in the information rich society must depend upon computer for the same. Computers have altered the structure of governance, business and educational environment. The computerization has a greater impact on

the society, people and organizations. Large volumes of accounting and record keeping data can be manipulated, organized, stored, retrieved and used for specific purposes. Financial projections are made with greater ease. Word processing saves time for people at all levels of the organisation and helps drafting accurate letters, reports and memos. Automated filing uses for less storage space than endless stack of papers and enables workers to retrieve documents when they are in need of them.

Edutainment

Multimedia application systems redefine the teaching learning process and model the kind of education reform possible with new technologies. Edutainment is delivering education and entertainment to children at their doorsteps. For adult learners of different subjects are offered over on-line and sold out in CD-ROM format which they can use at their convenience and pace. Such applications are possibly used in mass instruction and proved to be effective when supplementing the synchronous communication of Indian classrooms. Similarly special purpose computer based multimedia software is available for learners of physically challenged. Computers provide learning materials with

multi-sensory approach and thus the projects using technology applications to support advanced skills can be successful with disadvantaged students.

The process of meeting the requirements for a degree has evolved from a campus to cyberspace. In management courses and computer applications, the use of laptop computers are common and this convenience helps the learners to complete many tasks with greater accuracy. One of the characteristics of ICT is that it saves time and efforts resulting in increased efficiency. The introduction of INSAT video conferences and Gyan Dharshan telecasts are attempts to bring the educators and academics to offer effective presentations in countrywide classrooms. This effective interaction of virtual classrooms with less faculty, infrastructure and resources reduces the learning time. It also opens up new vistas of learning, avenues of new branches of interdisciplinary nature and promotes the society into an enriched one with the optimum use of computers in every walks of their life.

Tele-marketing

The libraries with net facilities attract users from all walks of life and for varied purposes unlike the pile of rack full of books meant for a limited section of the

population. All commercial activities are carried out with the implementation of e-banking, e-commerce, ATMs, and other mode of e-currency technologies. People can tele-shop, tele-bank and take part in video conferences from home. The video conferencing for the proceedings of Court of Law is becoming common in India, considering the difficulties of transporting the accused and suspects of grave cases and major offenses.

e-governance

The rural citizens are well connected in the networked society and the implementation of e-governance helps them pay taxes, bills, etc., and receive revenue documents and the like. The computer based kiosks show the position of trains, availability of seats and other necessary information. University and colleges supply their applications that can be downloaded besides giving all the information in an easy and attractive ways. There is a possibility of downloading one's own diploma or degree without even visiting the university.

Net Fora

Medical consultancy is a boon for the patients who need urgent consultation with a specialist in a distant place. Video phones and chat facilities are common

media for researchers to seek guidance from farthest destinations. It provides a platform to express their views in Net forums or to publish over net journals. Recreation and entertainment are now through the internet on television and personal computers at home. Multimedia, virtual reality, digital video, sound digital audio, 3D graphics and such high technology miracles not only provide entertainment but also Education.

Simulation

Simulated training for the drivers of Indian Railways is offered in Vijayawada, Andhra Pradesh, India, by using the computer based simulation. It is used optimum in analyzing the remains of ancient civilization, fossils, mummies for identification and further details. The DNA analysis using computer generated pictures of the remains of the deceased or murdered in the police department is the break through in the field of forensic science and criminology. Cryptography is also an upcoming field much to be used in the defence and civil identification where the application of computer is quite amazing. This would improve the integrity of the system and increase the public confidence in the process of e-voting.

MULTIMEDIA APPLICATIONS

Multimedia is more than a high technology buzzword it is a powerful way to educate, entertain, and inform. It has taken the computer from communicating information as text to telling stories using pictures, sound and video. Multimedia has taken computer users from intimidating mainframe terminals to high-technology desktop systems that offer fun, adventure, and interactive learning. Multimedia technology is one of the main reasons for the fact that the computers are becoming as common in the home as they are in the workplace.

Information Delivery Applications

Vast collection of data are in the form of books, catalogues, libraries, audiotapes, videotapes or still photographs. Any of these can be captured in digital format and presented by a multimedia computer. This fast and modern method of transacting the data is called 'information delivery' and such data can be stored with the help of CD-ROM disc. Multimedia storage and retrieval system can contain more information than any human training agent can possibly embrace, and have many terminals through which students have access to the information.

Business Applications

Selling combines information delivery with other capabilities such as demonstration, quotation, negotiations, order taking and so on. Programming in an authoring language usually does authoring for sales application. This is because these applications combine multimedia information delivery with other computer tasks such as preparing orders, contracts or invoices.

Productivity Applications

This class of application is a combination of information delivery and training. Productivity applications such as spreadsheets, charting programmes or database programmes create screens that are displayed to show the user's data or calculations. It is valuable if the user can add multimedia objects to these screens so that he can use audio or video to support or explain his screens. A server knows all about multimedia and can run audio, video or other multimedia objects on command from another application via PC.

On-line Education and Virtual Classroom

On-line instruction is the most recent form of what is generally termed as 'distance education', which includes satellite courses, computer-based programmes, video instruction, educational television, correspondence or

home study courses. These methods attempt to more educational, centralized classroom to students who are unable to attend classes at a central site.

On-line education represents a learning domain unlike any other technology-based academic delivery system. It incorporates the group qualities of interactive classroom-based learning while providing individual students the flexibility to participate in a graduate or post graduate programme at their own time and place. Personal computers and modems are the vehicle for communication. The most important academic benefits of on-line education through multimedia are critical thinking and learning at students' own time and place.

Teleconferencing

With the teleconferencing, one can participate in a meeting without leaving his desk or workstation and he can still obtain the kind of audio-visual experience he would get by travelling to a live meeting. The key is a high speed digital network connecting all systems and most corporations are installing such networks. Teleconferencing can also consist of using closed circuit television to reach large groups at multiple sites. Several major communication carriers and hotel chains

now offer teleconferencing services for such events as sales meetings, new product announcements, employees' education and training, e-governance in states like Tamil Nadu in India and in Indian Court of Laws for hearings and proceedings.

Video Conferencing

Video conferencing is real time video application through multimedia between two locations or multipoint, which can include several conference sites depending on the system capabilities. The CD-ROM technology, videodisks and video software installed in PC created opportunities for new applications in the office. Users in decentralized work groups are able to use multimedia to support collaborative projects. As one user modifies the document on-screen, the changes will appear on the copy of document in the user's computer. Multimedia plays an important part in software that supports such cooperative working, known as Groupware.

Geographic Information System (GIS)

The management of facilities such as buildings, roads, power lines and railroad tracks is a problem that concerns government offices, utilities and many industries. Specially designed computer database management system called 'geographic information system' is

available to provide on-line support for these types of applications.

Virtual Reality

Virtual Reality (VR) is a computer-stimulated reality. It is a fast growing area of artificial intelligence that had its origin in efforts to build more natural, realistic, multi-sensory human/computer interfaces. Virtual Reality encompasses a range of interactive computer environments, from text oriented online forums and multi-player games to complex simulations that combine audio, video, animation or three-dimensional graphics. One can experience computer stimulated "Virtual Worlds" three-dimensionally through sight, sound and touch with special devices such as head set with video goggles, and stereo earphones or a data glove or jumpsuit. Thus Virtual Reality is also called Telepresence. One can enter a computer generated virtual world, look around and observe its contents, pick up and move objects and move around it at will. Virtual Reality is also used in some amusement parks and to simulate construction designs, high temperature chemical experiments and even in nuclear fission or fusion. Experimental and envisioned users include education, industrial design, surgical training and scientific experiments.

CONCLUSION

Computer is certainly one of the most versatile and ingenious developments of the modern technological age. The use of computers in instruction is widely felt among the computer specialists, because the computers would provide the means for the tailoring of educational process to individualized students.

The Education in the context of current scenario definitely needs a lot of re-thinking on modernization. Although the content warrants considerable changes, the methodology of the present system of education must undergo a metamorphosis in general. The thrust is on the methodology of teaching different subjects in Teacher Education and hence the influence of ICT revolution must be incorporated in day-to-day affairs of the Teacher Preparatory Institutions.

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