DIGITAL TECHNOLOGIES IN EDUCATION

ABSTRACT

Over the last few decades information and communication technologies have improved greatly and computers have become more widespread. As a result, educators have started looking at ways to use this technology. Computer Based Education (CBE) was one of the initial stages, leading to online education and Electronic Learning (E-learning) in the mid-1990s. E-learning offered new ways for students to access many resources. This was a major break-through in education leading to better management of both in-house tertiary education and distance education. Mobile Learning (M-learning) is a part, or sub-level, of e-learning. M-learning is a new stage in the progress of e-learning and it resides within its boundaries. M-learning is not only wireless or Internet based E-learning but includes the any time/any place concept without permanent connection to physical networks. Ubiquitous Learning (U- learning) is to move E-learning and M-learning a step further from learning at anytime anywhere to be at the right time and right place with right learning peers and right learning resource. In this paper we compare and analyze the concepts of E -learning, M-learning and U-learning.

INTRODUCTION

Educational technology is the use of technology in education to improve teaching and learning . This is also known as instructional technology or learning technology. Educational technology is not restricted to the education of children nor to the use of high technology. Computer Based Education (CBE) was one of the initial stages leading to On-line education and E-learning in the mid 1990's. E-Learning and M-Learning are growing trends in the educational field. U-learning allow students to access education flexibly. The rapid growth of information and communication technologies makes it possible to develop a new form of education.

E-LEARNING

Electronic learning is a type of education where the medium of instruction is computer technology. E-learning is used interchangeably in a wide variety of contexts. E-learning is the use of network technologies to create, foster, deliver, and facilitate learning, anytime and anywhere.

E-learning is bringing hope to millions who had abandoned the dream of continuing education due to paucity of time and money. It makes learning much easier as one need not be physically present in the classrooms all the time.

Along with the terms learning techn[o] instructional technology and educational technolo[gy] term E-learning is generally used to refer to the technology in learning in a much broader sens[e] computer based learning or computer based trainin[g] also broader than the terms online learning or education which generally refers to purely web[-] learning.

COMPUTER BASED LEARNING

Computer based learning (CBL) refers to [the use] of computers as a key component of the educ[ational] environment and the use of computers in a class[room] Further, the term more broadly refers to the str[uctured] environment in which computers are used for te[aching] purpose. The concept is generally seen as being [different] from the use of computers in many ways where lea[rning is] at least a peripheral element of the experience.

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COMPUTER BASED TRAINING

Computer based training (CBT) services are those where students learn by executing special training programs on a computer relating to their occupation. CBT programs can be integrated with the applications so that students can practice using the application as they learn.

CBT growth has been hampered by the enormous resources required. We need human resource to create CBT programs and hardware resources to run them. Many PC applications now come with some modest form of CBT which is often called a tutorial.

WEB BASED TRAINING

Web based training is a type of training that is similar to CBT, however it is delivered over the internet using a web browser. Web based training frequently includes interactive methods such as bulletin boards, chat rooms, instant messaging, video conferencing and discussion threads. Web-based training is usually self-paced. Learning medium through some systems allow for online testing and evaluation at specific timings.

E-learning lessons are generally designed to guide students through information or to help students perform specific task. Information based e-learning content communicate information to the students. For information based contents there is no specific skill to be learned. For performance based contents the lessons are built of a procedural skill in which the student is expected to increase proficiency.

E-LEARNING COMMUNICATION TECHNOLOGIES

Communication technologies in E-learning are generally categorized as asynchronous or synchronous. In Asynchronous activities the participants may engage in the exchange of ideas or information without the dependency of other participants' involvement at the same time. Blogs, wikis, discussion boards and Email are examples of asynchronous activities.

Synchronous activities involve the exchange of ideas and information with one or more participants during the same period of time. Face to face discussion or online chat sessions are examples of synchronous communications.

FEATURES OF E-LEARNING

- Learning is self-paced and gives the student a chance to speed up or slow down as necessary.

- Learning is self-directed, allowing students to choose content and tools appropriate to their differing interests, needs, and skill levels

- Accommodates multiple learning styles using a variety of delivery methods geared to different learners.

- Learning is designed around the learner.

- Fosters greater student interaction and collaboration.

- Fosters greater student/instructor contact.

- Enhances computer and Internet skills.

BENEFITS OF E-LEARNING

E-learning uses virtual notes instead of paper notes and online assessments instead of paper assessments. So E-learning is a more environmental friendly solution.

Instructors of the highest calibre can share their knowledge across borders. This allows students to attend courses across physical, political, and economic boundaries. Recognized experts have the opportunity of making information available internationally, to anyone interested at minimum costs. This can drastically reduce the costs of higher education, making it much more affordable and accessible to the masses.

As E-learning is self-paced and the learning sessions are available 24x7 learners are not bound to a specific day/time to physically attend classes. They can also pause learning sessions at their convenience. This provides convenience and flexibility to learners.

M-LEARNING

Mobile learning refers to the deployment of training programmes on wireless handheld devices like cell phones and personal digital assistants. There is increasing use of Cell Phones, Tablet PC, Personal Digital Assistants, Web Pads and Palmtop Computers by the younger generation and individuals in business, education, and industry. These technologies provide the individuals a unique learning opportunity. Mobile technologies have the potential to

provide learners with increased access to information and learning material and to support learning and working from anywhere rather than from a specific location at a certain time.

Students living in remote locations can use the mobile technologies with wireless capabilities to connect with their peers in any other locations. As result remote students will feel less isolated which could result more students acquire education.

BENEFITS OF M-LEARNING

- Students interact with each other and the practitioner instead of hiding behind large monitors.

- Much easier to accommodate several mobile devices in a classroom than several desktops, as they require far less space.

- PDAs or tablets holding notes and e-books are lighter, less bulky and easier to carry than bags full of files, paper and textbooks, or even laptops.

- Allows shared assignments and collaborative working, so several students and the practitioner can pass the device around a group, or "beam" the work to each other using the infrared function of a PDA, or a wireless network such as Bluetooth.

- Practitioners can more easily and naturally annotate work using the pen.

- The young people who may have lost interest in education do like mobile Phones, gadgets and games devices.

- Increases motivation and personal commitment to learning if a student can "own" a device and take it with him/her wherever he, she goes, and encourages responsibility.

- SMS can be used to get information to staff and learners more easily and quickly than by phone calls or email.

DIFFERENCE BETWEEN M-LEARNING AND E-LEARNING

M-learning is the delivery of electronic learning materials, with built-in learning strategies, on mobile computing devices available anywhere and anytime. On the other hand, E-learning is the delivery of electronic learning materials on desktop and notebook computers. The main difference between M- l and E-learning is that M- learning allows learning anywhere and at anytime while in E- learning the of the learner is more restricted.

Also because of the small input and components of mobile technology, there are des learning materials for M-learning. For example rath scrolling for more information on the screen, users of technology go directly to the information and mov and forth. To compensate for the small size scr mobile technology learning strategies use rich med convey the message to the user. For example rath present information in textual format, graphics and p are used in such a way to convey the message usi least amount of text.

U- LEARNING

Ubiquitous learning utilizes smart devices to p people the right information at the right time in th way. It is the collaborative, informal converge E-learning and M-learning.

Now, the assimilation of ubiquitous compu education marks another great step forward. It is rep to be both pervasive and persistent, allowing stud access education flexibly. U-learning has the poten revolutionise education and remove many of the ph constraints of traditional learning. Furthermor integration of adaptive learning with ubiquitous com and U-learning may offer great innovation in the de of education, allowing for personalisatior customisation to student needs.

A ubiquitous learning environment is any set which students can become totally immersed in the le process. So, a ubiquitous learning environment (U a situation or setting of pervasive (or omnipr education (or learning). Education is happening all the student but the student may not even be conscie the learning process. Source data is present embedded objects and students do not have to do an in order to learn. They just have to be there.

The ULE resides within the physical environment. Microprocessors are embedded in objects, or devices. The use of wireless and mobile technology makes them easily accessible and contributes to educational functionality. The wireless and mobile devices include mobile phones and PDAs. A ULE can provide the props and stimuli needed to easily encourage student involvement but without needing the active attention of the student. The benefits of the many to one relationship found in U-learning include the potential for one ULE (of many devices) to service an unlimited number of individuals at once. Essentially, the many to one relationship exists for every one of the students within the environment. Ubiquitous Technology and U-learning may be the new hope for the future of education.

FEATURES OF U-LEARNING

- Learners never lose their work unless it is purposefully deleted. In addition, all the learning processes are recorded continuously everyday.

- Learners have access to their documents, data, or videos from anywhere. Information is provided based on their requests. Therefore, the learning involved is self-directed.

- Wherever learners are, they can get any information immediately. Thus, learners can solve problems quickly. Otherwise, the learner can record the questions and look for the answer later.

- Learners can interact with experts, teachers, or peers in the form of synchronous or asynchronous communication. Hence, the experts are more reachable and the knowledge becomes more available.

- The learning could be embedded in our daily life. The problems encountered as well as the knowledge required are all presented in their natural and authentic forms. This helps learners notice the features of problem situations that make particular actions relevant.

- Learners can get the right information at the right place in the right way.

CONCLUSION

Technologies in learning are unique. It can also be used to enrich, enliven or add variety to conventional lessons or courses. The use of M-learning has a positive contribution to improve the literacy skills and to recognize the existing ability of a person. The concept of ubiquitous technology and U-learning goes beyond portable computers. As new technologies evolve and more pervasive forms of technology emerge, computers will become 'invisible' and will be embedded in all aspects of our life. They will be seamlessly integrated into our world in a phenomenon referred to as calm technology. Many technologies have become integrated into our lives over the years, for example: the telephone, television, PCs, the Internet and mobile phones. These innovations may have appeared strange and futuristic at first but, over time they blended into our everyday lives. In this age of progress and great change, we tend to easily adapt to the technologies and pedagogies that emerge. Ubiquitous technology and U-learning may be the new hope for the future of education.

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