

INNOVATIVE TECHNIQUES IN HIGHER EDUCATION THROUGH E-LEARNING

Mr. Sanghesh B. Bele, Ms. S.K. Totade, Ms. A.R.Raut

Deptt. Of MCA, Vidya Bharati Mahavidyalaya, Amravati

Abstract- The term E-learning refers to a novel teaching and learning in education. This educational high technology is an important part of today's world, which delivers supports and enhances the quality of learning. E-learning involves the participation of educator, and students who are use this technology to update their work. E-learning is the technique for how to understand and how to memorize the topic for long time. The E-learning is the use of technologies to improve knowledge and performance, and gives the advantage of 24x7 and 365 days a year. E-learning technologies offer learners control over content, learning sequence, pace of learning, time and often media, allowing them to adapt their experiences with to collect their personal learning objectives. Innovation in e-learning technologies point toward a revolution in education, especially higher education allowing learning to be individualized, enhancing learner's interaction with others and transforming the role of educator / teacher in higher education.

Keyword: ALT, ITS, ICT, VLE, MIS, VRT

1. Introduction

The brisk growth of the information age has made a big impact on the educational process in the last few years. The growth of information together with recent technological achievements has led to Computer Assisted Learning (e-learning) is enabling wider access to education to an increasing variety of people, independent of time or location.

E-learning is defined as acquisition of knowledge and skill using electronic technologies such as computer and Internet-based courseware at local and wide area networks. Electronic learning or e-learning is general term used for to refer to computer enhanced learning. It is commonly associated with the field of advanced learning technology (ALT), which deals with learning using network and/or multimedia technologies, it uses various technological tools that may be web based, web distributed or web capable for solving the purpose of education. E-learning facilities, such as 3D models and animations which are elements of Virtual Reality Technology, used for acquiring new knowledge.

The main objective of e-learning is to improve the quality of the learning experience for students who are in higher education.

2. What is E- learning

Learning system based on formalized teaching but with the help of electronic resources is known as E-learning. While teaching can be based in or out of the classrooms, the use of computers and the Internet forms the major component of E-learning. E-learning can also be termed as a network enabled transfer of skills and knowledge, and the delivery of education is made to a large number of recipients at the same or different times.

E- Learning refers to learn that is to be delivered or enable via electronic technology. It encompasses learning delivered via a range of technologies such as the internet, television, videotape, intelligent tutoring systems, and computer-based training.

E-learning is subset of two large words, specifically, "information technology" and "education and training". It can be valuable when used as a part of well-planned and properly supported education and training environment. However, e-learning does not replace or render existing educational theories and approaches.

3. Importance of E-learning in Higher Education

A student who is learning in higher education is a way that uses information and communication technologies (ICTs) by using e-learning. Following are different types of capability:

- Internet access to digital versions of materials unavailable locally.
- Internet access to search, and transactional services.
- Interactive diagnostic or adaptive tutorials.
- Interactive educational games
- Remote control access to local physical devices.
- Personalized information and guidance for learning support.
- Simulations or models of scientific systems.
- Communications tools for collaboration with other students and teachers.
- Tools for creativity and design.

- Virtual reality environments for development and manipulation.
- Data analysis, modeling or organization tools and applications.
- Tele-Medicine

For each of these, there is a learning application that could be exploited within higher education. Each one encompasses a wide range of different types of interaction – internet access to services, for example, includes news services, blogs, online auctions, self-testing sites, etc. Imagine, for example, a remotely controlled observatory web cam embedded in an on line conference environment for astronomy students, or computer aided design (CAD) device embedded in role play environment for students of urban planning.

The range and scale of possible applications of new technologies in Higher Education is almost beyond imagination because, while we are trying to cope with what is possible now, another technological application is becoming available that will extend those possibilities even further. Everything will need updating again when 3G/4G or even advance generations in mobile phones begin to have an impact on our behavior.

4. Intelligent Tutorial System (ITS)

An **intelligent tutoring system (ITS)** is a **computer system** that aims to provide immediate and customized instruction to learners, usually without requiring intervention from a human teacher like online teaching. It is difficult to provide a personal training assistant for each learner, however, a virtual training assistant that captures the subject matters and teaching expertise of experienced trainers provides a captivating new option. The concept, known as Intelligent Tutoring System (ITS) has been pursued by researchers in education, psychology and artificial intelligent. ITS can also be classified by model tracing tutor algorithm One of the objectives of Intelligent Tutorial System is to adopt hypermedia courses to each individual user by means of control of learning level, control of the course navigation, revision to available information, revision of the training methodology, explanation of errors, answers to the student's questions, advice, etc. In other words, intelligent tutoring system is a model which enables student to be evaluated and taught a subject and also for the education to be adapted to the students performance.

The traditional ITS model contains four components:

- Expert Module / Domain model / cognitive model / expert knowledge model
- Student Module / model tracing
- Curriculum Module / Tutoring model
- Interface Module.

5. Advantages of ITS:-

Intelligent Tutoring systems (ITS) are effectively used for teaching the course of the specified domain with following features and benefits:

- Increases student / instructor ratio from around 1:1 so that it reduce training costs extremely, and still deliver close to a one on - one learning experience.
- Shortens training time and / or improve skill level.
- Automatically optimizes individual learning.
- Builds "student module" for each student that includes: Performance on training exercises.
- Details of information / remediation received
- Details of knowledge mastered / failed / unknown / misunderstood.
- Performance on remediation activities.
- Student preferred learning style.

It is important because e-learning can make a significant difference: to how learners learn, how quickly they master a skill, how easy it is to study, and equally important, how much they enjoy learning. Such a complex set of technologies will make different kinds of impact on the experience of learning:

- Cultural: - Students are comfortable with e-learning methods, as they are similar to the forms of information search and communications methods they use in other parts of their lives.
- Intellectual: - Interactive technology offers a new mode of engagement with ideas via both material and social interactivity online.
- Social: - The reduction in social difference affordable by online networking fits with the idea that students should take greater responsibility for their own learning.
- Practical :- e-learning offers the ability to manage quality at scale, and share resources across networks; its greater flexibility of provision in time and place makes it good for widening participation.
- Financial :- Networks and access to online materials offer an alternative to place-based education which reduces the requirement for expensive buildings, and the cost of delivery of distance learning materials

6. Technology used in E-learning

Many technologies can be, and are used in E-learning, including:

- Blogs
- Classroom Response System.
- Collaborative Software.

- Computer Aided Assessment.
- Discussion Boards.
- E-mail.
- Educational animation.
- Electronic Performance Support System.
- ePortfolios
- Games.
- Hypermedia in general.
- Learning Management Systems(LMS)
- PDA's
- MP3 players with multimedia capabilities.
- Interactive Board
- Virtual Classrooms
- Web-based teaching materials

In higher education especially, the increasing tendency is to create Virtual learning Environment (VLE) which is sometimes combined with a Management Information System (MIS) to create a Managed Learning Environment. in which all aspects of a course handled through a consistent user interface standard throughout the institution. While some programs require students to attend some campus classes or orientations, many are delivered completely online. In addition, several universities offer online student support services, such as online advising and registration, e-counseling, online textbook purchase, student governments and student newspapers. E-learning can also refer to education web site such as those offering learning scenarios, worksheets and interactive exercise for children. The term also used extensively in the business sector where it generally refers to cost effective on line training.

7. Advantages of E-Learning

- More active learning class
- Diversified teaching method
- Better student attention and realization
- Effective time management for lecturers
- Visual stimulation
- Convenient for students
- Lower cost
- Up-to-date learning materials
- Flexible way of learning
- World-wide learning society

- Scalable e-learning systems
- Higher degree of freedom for students
- Better maintenance

8. Objectives:

E-learning represents an innovative shift in the field of learning, providing a rapid access to specific knowledge and information. It offers online instruction that can be delivered anytime and anywhere through a wide range of electronic learning solution such as web based courseware, online discussion groups, live virtual classes, video and audio streaming, web chat, online simulations, and virtual mentoring.

E-learning enables organizations to transcend distance and other organizational gaps by providing a cohesive virtual learning environment. Companies must educate and train their employees, partners, and clients to stay competitive, and elearning can provide such just in time training in a cost-effective way.

Following are main objectives of E-Learning:-

- Computer based learning.
- Computer based training.
- To reduce learning costs.
- To motivate employees.
- To improve flexibility of course delivery.
- To expand the capabilities of the business.

9. Methodology

The implementation of e-learning into contact teaching allows elimination of number of hours of contact teaching and giving space to individual work with student. The implementation of e-learning into distance learning allows simulating classical forms and methods of education by creating a virtual environment, which imitates classical classroom with whiteboard and the possibility of visual communication.

The following methods are used for the implementation of e-learning.

- Survey of existing tools for creation of information infrastructure.
- Comparison of individual programs for creation of electronic teaching materials and selection of the most appropriate ones.
- Distance learning project team training.
- CASE tool method for the creation of databases.

10. Conclusion

E-learning refers to the use of Internet technologies (IT) to deliver overseas array of learning modes that enhance learner's knowledge and performance. E-learning for higher education is designed, implemented and delivered. For students, e-learning can provide an educationally- superior alternative to traditional lectures, in which learning can take place outside the lecture hall/Class room. E-learning is also providing a model for students on how to become self directed independent learners, which may support them to lifelong learners. They also used for easily and useful understanding of subject by using Graphical / Pictorial form and can be remembered for long times.

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