

E-Learning in Education: Concept, Tools and Models

Rafat Fatima¹

Department of Education
(Assistant professor)
Gautam Buddha Degree Collage, Lucknow

Nidhi Neanam²

Department of Education
(Assistant professor)
South Vihar Central University, Gaya, Bihar

Abstract

The term E-learning refers to a novel teaching and learning in education. In the modern world, education has become more global, and people are looking for learning with simplicity and interest. Students are looking for more interactive and interesting learning style rather than tedious. Using e-learning, we can provide the quality education to remote and rural regions with the help of recent technologies like satellite, internet, and mobiles. 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 instructors, and students and mentors who use this technology to update their work. Educational institutions have recognized E-learning as having the prospect to transform people, knowledge, skills and performance. The higher education institutions utilize modern information and communication Technologies for teaching and learning. E-learning, has come to be more and more important in institutions of higher education. The present paper focuses on the meaning or definitions of e-learning as given by different researchers and the role that e-learning plays in higher educational institutions in relation to teaching and learning processes, and the advantages and disadvantages of its adoption and implementation.

Key Words: Students, E-learning, higher education, Information and communication technologies.

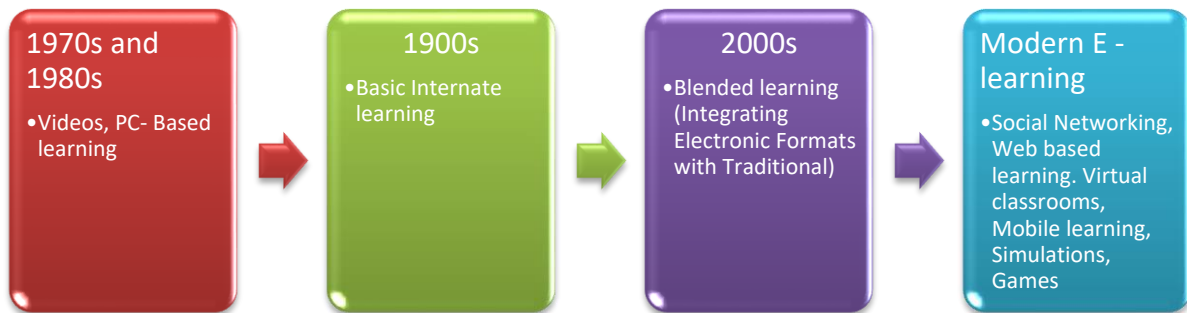
INTRODUCTION

The new generation is trying to introduce new methods.... New methods obviously involve technology. And most of them have the ability [to use technological tools], and they like it. In the rapidly changing world the education plays an important role. In the modern world, education has become more comprehensive, and people are looking for learning with ease and interest. Students are looking for more interactive and interesting learning style rather than tedious. Internet education is soon to become the dominant form of education in the world. A lot of effort is being dedicated into furthering the work methods and e-mail among students

and professors, aimed at bettering the quality of this kind of studying. Moreover, further development of fundamental education in the future will depend on the advance of contemporary technologies and the Internet. Using e-learning, we can provide the quality education to remote and rural regions with the help of modern technologies like satellite, internet, and mobiles. Satellites can play a very crucial role to establish the connectivity among all educational institutions with a sufficient infrastructure to provide quality education with interest to the large number of populations. Over the past years, e-learning has become a vital source of expansion and studying in education. Due to the opportunities created by e-learning, teaching and learning can now happen at any time and in anywhere. The internet has become one of the vital ways to make available resources for research and learning for both teachers and students to share and acquire information. 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. Technology-based e-learning encompasses the use of the internet and other important technologies to produce materials for learning and teaching in organization. As a result Internet and Information technology in tutoring and studying has created a different necessity to transform how university students learn by using more modern, effective, and substitute such as e-learning system. E-learning is construed in a variety of contexts, such as distance learning, online learning and networked learning (**Wilson 2001**). The fast expansion of the Internet and related technological advancements, in combination with limited budgets and social demands for improved access to higher education, has produced a considerable incentive for universities to introduce E-learning courses. If universities do not embrace E-learning technology that is readily available, they will be left behind in the pursuit for globalisation. **Ribiero (2002)** argues that if universities are to maximise the potential of e-learning as a means of delivering higher education, they must be fully aware of the critical success factors concerned with introducing online models of education.

Many commentators describe the relative benefits of eLearning in higher education, however, there are ramifications for unprepared, technology focused institutions, when trying to implement distance learning courses. **O'Hearn (2000)**, contends that university structures are rigid and unproven, regarding the incorporation of technological advancements. With the developing of computer and Internet technologies, this technology has a high interaction and collaboration level between teacher or lectures and students than traditional environment for learning. Hence, E-learning system might be able to deliver a broad range of solutions to facilitate learning and improve students' performance.

DEVELOPMENT OF E- LEARNING



THE CONCEPT OF E-LEARNING

The concept of e-learning has many forms, which means that there exist many different descriptions, terms, and definitions of the concept. What unites them all is that they depend on ICT. According to Clark and Mayer (2011) e-learning is defined as: "... instruction delivered on a digital device such as a computer or mobile device that is intended to support learning". Anderson (2008) believed that there are several terminologies, all aimed at describing learning that is being practiced online; they include; distance learning, virtual learning, e-learning, Internet learning, and others. Independent of which terms being used, they have commonalities:

- The learner is at a distance from the tutor or instructor.
- The learner uses some form of technology (usually a computer) to access the learning materials.
- The learner uses technology to interact with the tutor or instructor and with other learners.
- Some form of support is provided to learners. (Anderson, 2008, p. 16)

LITERATURE REVIEW

The Internet has become one of the vital ways to make available resources for research and learning for both teachers and students to share and acquire information (Richard and Haya 2009). Technology-based e-learning encompasses the use of the internet and other important technologies to produce materials for learning, teach learners, and also regulate courses in an organization (Fry, 2001). The European Commission (2001) describes, E-learning as the use of new multimedia technologies and the Internet to increase learning quality by easing access to facilities and services as well as distant exchanges and collaboration. There has been extensive debate about a common definition of the term e-learning. In some definitions e-Learning encompasses more than just the offering of wholly on-line courses. For example

Oblinger and Hawkins (2005) noted that e-Learning has transformed from a fully-online course to using technology to deliver part or all of a course independent of permanent time and place. It can therefore be concluded from the above that it is difficult to identify a common definition for E-learning. Some of the authors refer to e-learning as providing complete on-line courses only whereas comprise web-supplemented and web-dependent services for the provision of educational and support processes.

E-LEARNING IN EDUCATION

The advancement of information technologies and multimedia, also the use internet as a new technique of teaching, has made drastic changes in the conventional process of teaching and learning. Development in information technology has generated more choices for today's education. Now, schools and educational institutions have recognized E-learning as having the prospect to make over people, knowledge, skills and Performance.

- ❖ According to **Love and Fry (2006)**, colleges, universities, and other institutions of higher learning are in a race to advance online course capability in a speedily enveloping cyber education market. E-learning, has come to be more and more important in higher education institutes.
- ❖ The introduction and expansion of a range of e-Learning tools has been initiating several changes in higher education institutions, particularly when it comes to their educational delivery and support processes (**Dublin, 2003**). Just as there are different types of e- Learning, there are also different ways of employing the technique in education.
- ❖ E-learning has been used very effectively in university teaching for enhancing the traditional forms of teaching and administration. Students on many courses in many universities now find they have web access to the lecture notes and selected digital resources in support of their study, they have personalised web environments in which they can join discussion forums with their class or group, and this new kind of access gives them much greater flexibility of study. Part time students can more easily access the course and this in turn supports the objectives of wider participation, removing the traditional barriers to HE study. (p. 10)
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- ❖ Implementing e-learning in teaching involves a variety of restructuring that must be performed in educational activities. Moving from a traditional learning environment to an e-learning environment means a change in teachers and students roles.
- ❖ The implementation of e-learning in higher education has led to a shift in students' roles. Instead of being passive recipients of knowledge transmitted by the teacher, students are expected to be active participants with the main task of acquiring and processing knowledge.

TOOLS OF E-LEARNING USED IN EDUCATION:

E-learning is being implemented today in various forms and through various tools emails, blogs, wikis, e-portfolios, animation, video links, specialised software, etc. We can create through these tools a learning situation spread over distance and location that is picturesquely termed as a virtual classroom. Blogs or individual platforms are increasingly being used by innovative teachers to place educational materials, visuals, exercises, assignments, etc and access made available to select group of persons – students or other learners.



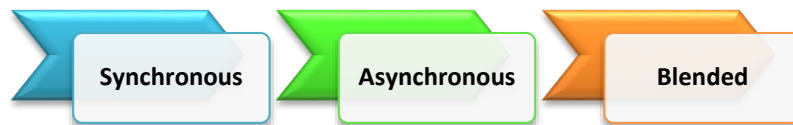
- ❖ **Web blog:** A blog short for web blog is a user-generated website where entries are made in journal style and displayed in a reverse chronological order. The term "blog" is a mingling of the words web and log. Blogs provide comments or news on a particular subject, some function as more personal online diaries. The modern blog evolved from the online diary, where people would keep a running account of their personal lives. There web blogs, such as Word Press, Movable Type, blogger or Live Journal, or on regular web hosting services, such as Dream Host.s
- ❖ **Social bookmarking:** Social bookmarking is a web-based service to share Internet bookmarks. The Social bookmarking sites are a popular way to store, classify, share

and search links through the practice of folksonomies techniques on the Internet. In a social bookmarking system, users store lists of Internet resources that they find useful

- ❖ **Wiki:** A wiki is a website that allows visitors to add, remove, edit and change content, without the need for registration. It also allows for linking among any number of pages. Wikis have emerged from the concept of Wikipedia which has gained currency in the last few years. It allows readers to have access to any desired topic which may consist of the history of a country, explanation of a scientific principle or latest developments in the field of psychology or education etc. One can also look up information of e-learning itself on the wikipedia. The tool of wiki has been derived from and constructed on this concept. It allows students to read, add or edit materials already put up by any person – e.g. a teacher or tutor. In this way there is interaction and collaboration of different persons interested in a particular field or topic. The material may consist of text, tabular data, visuals, photographs etc.
- ❖ **RSS (Really Simple Syndication):** RSS is a web feed formats used to publish frequently updated digital content, such as blogs, news feeds or podcasts, vodcasts etc. Users of RSS content use software programs called "feed readers" or "feed aggregators". The user subscribes to a feed by entering a link to the feed into the reader program. The reader can then check the user's subscribed feeds to see if any of those feeds have new content since the last time it checked and if so, retrieve that content and present it to the user.
- ❖ **Podcasting:** Podcasting is a fusion of two words: iPod, Apple's popular digital music player, and broadcasting. Podcasts are basically digital audio programs that can be subscribed to and downloaded by listeners by RSS (Really Simple Syndication). It can be accessed on an array of digital audio devices, like Mp3 players, desktop computer, laptops, mobiles etc.
- ❖ **Instant Messaging:** An instant messaging application allows one to communicate with another person over a network in relative privacy. There are many options like Gtalk, Skype, Yahoo!, Messenger, MSN Messenger and AOL for instant messaging. You can add associates to a contact list or buddy list, by entering their email address or messenger ID.
- ❖ **Text chat:** Internet Relay Chat (IRC) and other online chat technologies allow users to join chat rooms and communicate with many people at once, publicly. Users may join a pre-existing chat room or create a chat room about any topic. Whether you are in another person's chat room, or one you've created yourself, you are generally free to invite others online to join you. This facilitates both one-to-one communication and many-to-many interaction.
- ❖ **Internet forums:** Originally modelled after the real-world paradigm of electronic bulletin boards of the world before Internet was born, internet forums allow users to post a "topic" for others to review. Other users can view the topic and post their own comments in a linear fashion, one after the other. Most forums are public, allowing anybody to sign up at any time.

Model of E-learning in Education:-

There are three ways of classifying the models of e-learning. The first one is called synchronous, the second one is asynchronous and the third one is blended learning.



1. Synchronous training (at the same time):

The synchronous learning mode is more similar to traditional teaching because communication in this mode is carried out in real time. Synchronous communication enables students to watch teachers' presentations and verbally interact with the teachers during learning sessions. Because the synchronous communication mode is carried out in real time, discussions become more dynamic compared to using solely asynchronous communication. The synchronous communication mode is appropriate to use in large groups when the aim is to broadcast different types of sessions. Basically synchronous training involves the collaboration of participants with E-mentor via the essential platform in real time. In other words, synchronous training provides facilities to the participants to discuss with the mentor and also among themselves via the e-classroom with the use/help of tools such as the video conference or chat rooms.

2. Asynchronous (not at the same time):

The asynchronous mode refers to online learning situations where students interact with each other, over a time gap, with the help of tools such as discussion forums, e-mail, and bulletin boards. Hrastinski (2007) argued, "Asynchronous communication better supports cognitive participation because of increased reflection and ability to exchange complex information". A rather common and recurring description of the benefits of e-learning is the quantitative increase in numbers of students. The reason for the increase is said to be that teaching is not tied to a physical location, something that enables students to study almost regardless of their geographical location. The asynchronous teaching mode is, according to Hrastinski (2008), appealing for students because it makes it easy for them to both study and take care of other undertakings; students contextualise the learning (Anderson, 2008). Singh et al. (2005) referred to Holley (2002), who claims that the asynchronous way of learning has enabled all people in the world the opportunity to access lifelong learning. The asynchronous mode gives the opportunity to the participations to discuss with the teachers/mentor as well as among

themselves over the internet on his/her own pace without live interaction with the instructor. In this way scholars are able to learn at a time that suits them the most. However, immediate feedback from mentors, their colleague learners is not receivable.

3. **Blended learning (the mix of synchronous and asynchronous learning):**

This kind of training combines aspects of online and face-to-face instruction, so the course materials and explanations is shared between traditional learning method and e-learning method in the classroom setting. Blended learning allows for personalized education as a result students can work at their own pace, making sure they have mastered the curriculum before moving on. Using e-learning at university classrooms give to instructors the multiplicity of their lectures, displaying more information, and enhancing student learning. Also e-learning system can helps lecturers to save time and allow for more attention to be paid to the content of course.

Advantages of e-learning

- ❖ E-learning is important for education because it can improve the quality of the learning experience, and extend the reach of every lecturer and tutor. E-learning offers a wide range of tools to enable teachers and learners to be innovative, creative and resourceful in all learning activities.
- ❖ E-learning can help remove barriers to achievement, by providing new and creative ways of motivating and engaging pupils and learners of all abilities, enabling and inspiring everyone to attain their educational potential. It can support learning by offering differentiated learning, particularly for those who need support in literacy, numeracy and ICT.
- ❖ E-learning creates on-line communities of practice. The Internet can bring learners, teachers, specialist communities, experts, practitioners and interest groups together to share ideas and good practice.
- ❖ E-learning can provide an individualized learning experience for all learners, including those who are disadvantaged, disabled, exceptionally gifted, have special curriculum or learning needs or who are remote or away from their usual place of learning.
- ❖ E-learning can facilitate wider participation and fairer access to further and higher education by creating the opportunity to start learning and to choose courses and support according to the learners' needs.
- ❖ E-learning provides personalized learning support through information, advice, and guidance services. It can help learners find the course they need, with a seamless transition to the next stage of their learning, including online application or enrolment and an electronic portfolio of their learning to take with them.
- ❖ E-learning provides virtual learning worlds where learners can take part in active and creative learning with others through simulations, role-play, remote control of real-world tools and devices, online master classes, or collaboration with other education providers.

- ❖ An economical point of view, that a lot of money could be saved by using e-learning, since both teachers and students are not forced to transport them to a certain geographical location for education. E-learning courses help students get an education without the demand of being located in a specific physical place.
- ❖ The performance of e-learning in higher education has led to a shift in students' roles. Instead of being passive recipients of knowledge transmitted by the teacher, students are expected to be active participants with the main task of acquiring and processing knowledge. It has changed the teacher's role from being "sages on stage" to "guides on the side".

Disadvantages of e-learning

The disadvantages of e-learning that have been given by studies include the following:-

- ❖ E-learning as a method of education makes the learners undergo contemplation, remoteness, as well as lack of interaction or relation. It therefore requires a very strong inspiration as well as skills with to the management of time in order to reduce such effects.
- ❖ With respect to clarifications, offer of explanations, as well as interpretations, the e-learning method might be less effective than the traditional method of learning. The learning process is much easier with the use of the face to face encounter with the instructors or teachers.
- ❖ When it comes to improvement in communication skills of learners, e-learning as a method might have a negative effect. The learners. Though might have an excellent knowledge in academics, they may not possess the needed skills to deliver their acquired knowledge to others.
- ❖ Since tests for assessments in e-learning are possibly done with the use of proxy, it will be difficult, if not impossible to control or regulate bad activities like cheating.
- ❖ E-learning may also probably be misled to piracy and plagiarism, predisposed by inadequate selection skills, as well as the ease of copy and paste.
- ❖ E-learning may also deteriorate institutions' role socialization role and also the role of instructors as the directors of the process of education.
- ❖ Also not all fields or discipline can employ the e-learning technique in education. For instance the purely scientific fields that include practical cannot be properly studied through e-learning. Researchers have argued that e-learning is more appropriate in social science and humanities than the fields such as medical science and pharmacy, where there the need to develop practical skills E-learning may also lead to congestion or heavy use of some websites. This may bring about unanticipated costs both in time and money.

CONCLUSION



E-learning and ICT are important for teachers and students in higher education. One reason is that utilisation of such technologies creates more flexible solutions for students that mainly have the opportunity to study online – regardless of the student’s geographical location. Some researches suggests that another important change that ICT and e-learning brings is increased flexibility, making it possible for universities around the world to enrol an increased number of students an aspect beneficial to the universities from an economic point of view. With e-learning system students don’t have to come to class in person and feel uncomfortable answering their teacher’s questions in class. Therefore, students can study at home, work or even on the street by using multi-electronic devices as computers, laptops, or smart phones. As follows, students can easily read or download the materials or reference books online when and where ever they want. It is apparent that teachers have moved from serving as active transmitters of knowledge to instead – in an online-based teaching situation – acting as tutors to guide, support, motivate, and introduce the technological tools that the students need to learn. The principles that ICT and e-learning consists of have contributed in, as replace the teacher as the key element of learning and, as a result, the teacher does not have a monopoly on the knowledge.

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