

# A Review Study of E-Learning and its Concerning Issues

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## ABSTRACT

This paper presents a brief overview of the e-learning concept, e-learning history, technology and future. The development in the cyber learning is being so rapid in these systems. The features of adaptive learning are emphasized by comparing it with the other e-learning systems. It is clear from the paper that adaptive learning has various aspects and will lead to a new era in learning. Using the best suitable e-learning tool depends on the learning group and the space of learning.

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## 1. Introduction

During the latest couple of years e-learning has been one of the interesting research fields. It is developing brisk and numerous people, affiliations, companies, and universities have started to use it [19][8]. This paper presents a brief overview of the field of e-learning. It introduces the concept of e-learning, the authentic setting of e-learning, the benefits and disadvantages of online learning, the future of e-learning, types of learning management systems, and synchronous e-learning versus offbeat e-learning, and technologies used in e-learning. Likewise it introduces different types of learning including blended learning, social and collaborative learning, and miniaturized scale learning. It moreover discusses the virtual homeroom concept and components, especially the online presentation, and direct meeting. The last piece of this paper will describe the adaptive e-learning concept and its experience including the Domain Model, Student Model, and the Adaptive Model.

## 2. E-Learning

For a long time until the early centuries, education was a gathering of students in a conventional study hall with teacher who led the teaching process. The learning landscape changed after the computer evolution [9]. The e-learning concept means all the computer based educational apparatuses or systems will permit the learners to get their education anytime and anywhere. In the past the e-learning used the CD-ROM, and the other blend of computer-based methods. These days the Internet has become the principle method for delivering e-learning [24]. The advanced improvements of technology, especially the networks and the internet, bridges the geographical hole by utilizing devices that make the learners feel just as they are inside the study hall. e-learning offers the capacity to share different sort of materials, for example, PDFs, word documents, slideshows, and video, just as the capacity to direct online virtual classes that permit the members to pose inquiries utilizing the voice and the visiting tool[9]. A wide range of e-learning methods and systems were found and are known as Learning Management Systems (LMS), which deliver the courses. These systems provide great, different services and devices, including the creation of engaging content, and automated checking of tests. The learners in the e-learning

have the capacity to fit learning around their style of life and it gives numerous people the opportunities to get a new career by increasing new capabilities with flexible ways. Since the dispatch of the Internet, the most significant developments in education are been evaluated. The use of PDAs, text messaging, and utilizing the internet running an online course has become simple and very normal. Web-based social networking and electronic media and different other means of online correspondence permit learners to keep in contact and talk about courses related to their needs and requirements in the network [9].

In the fast moving world of today, e-learning technologies are used to make a course exciting, entertaining, and challenging. In the fast moving world of today, e-learning technologies are used to make a course exciting, entertaining, and challenging. Course content must be updated quickly to give students the very latest information. In e-learning training emphasis is given to employees in a sector where keeping up-to-date on industry developments is of the utmost importance. This is why many businesses are now offering training via e-learning - other reasons includes low costs and the ability for employees to study in their own time and place. E-learning offers a faster, cheaper and potentially better and alternative mode of learning to the learners in a flexible time and place.

### 2.1 E-learning in Historical Parameters:

The term "e-learning" has been known since 1999, when it was first utilized at a computer based training systems (CBT) seminar. Other words used to describe e-learning, for example, "online learning" and "virtual learning" existed earlier in the nineteenth century. Distance education courses were being offered to provide student's education on specific subjects [9]. During the 1840s Isaac Pitman showed his students shorthand by means of correspondence, which was the main distance course experience. The secretaries, columnists, and other people used a representative composing system designed to improve composing speed and note taking or composing. Pitman, who was a qualified teacher, mailed and sent his students more work to be finished utilizing this emblematic system. The main testing machine was invented in 1924. This device allowed students to test their composing abilities without anyone else. Further in 1954, BF Skinner, a Harvard Professor,

invented the "teaching machine", which was a major achievement to help the schools to administer programmed guidance to their students in the school. In 1960, the primary computer based training program was introduced to the world. This computer based training program (CBT) was known as Programmed Logic for Automated Teaching Operations (PLATO). It was initially designed for students attending the University of Illinois, however was just specified for school work [9]. During the 70s e-learning started to become more interactive in other industries besides education. In Britain the Open University exploited e-learning for distance courses. Their system of education has consistently been principally focused on learning a ways off. Before, course materials were delivered by post and correspondence with guides was sent by means of mail by the teachers of Open University. Because of the internet the Open University became famous as faster correspondence was available to students by means of email and other modes of e-learning available at that era.

## 2.2 Online Learning Today:

In the late 20th century, e-learning tools and delivery methods become very common. In 1980's people had computers in homes, and it was an easy way to learn about particular subjects and develop certain skill. By this way virtual learning began to truly thrive, with people getting access to online information and e-learning opportunities. In the early 90s several schools offered online courses, making the most of the internet and bringing education to people via internet and e-learning. An advancement in technology also helped the education system to reduce the costs of distance learning, hence making e-learning economical to the students [2]. With the start of the 21st century, e-learning started to be used in business to train their employees and workers, to improve industry knowledge, and to create skillful workers. By this way online degrees are provided to the people at flexible places, and time. It made their lives easier through expanded knowledge.

## 2.3 Online Learning Advantages:

E-learning packages offer a lot of benefits to different people, like the teachers, who want to engage their students in an interactive way, or large companies who want to offer good training to their employees with low cost and high quality. Below is the outline of some important benefits of the e-learning:

- No Boundaries, or No Restrictions: In traditional learning the teachers and the learners faced the challenges of the restrictions of the location and time. Face to face learning limits the attendance to learners who have the ability to participate in the area, as well as the specific time to attend the class. On the other hand, e-learning meets these challenges by offering the learning for the people any time and any place. Any interested individual in any course can get it[9].
- More Fun: The courses in the e-learning are designed in an interactive way that includes the fun of using different methodologies and technologies, like the multimedia and the games which enhance the engagement.
- Cost Effective: E-learning has a low cost compared with the cost of the traditional learning materials, like textbooks, which need to be updated after a short period of time. It costs more money for, teachers, students, and schools. In e-learning the learning materials are usually updated

easily, so the need to get updated versions is readily available in e-learning.

## 2.4 The Future of E-learning:

E-learning has become more common and accessible in today's world as computer, laptop, I-pad, I-tab ownership is growing across the globe. Increasing Internet speeds, Opportunities for more multimedia training methods have also increased. In the past few years, improvement in mobile networks, advancement in telecommunication, smart phones and other portable devices are using the features of e-learning. Social media is also playing a vital role in education. Generally, e-learning is time consuming, takes a long time and the results can vary. E-learning takes years to be measurable and accessible in an effective way. Different tools can help to create interactive courses, standardize the informal and formal learning processes, depending on the needs of users, and the tools are helpful for future modification and trending of user's requirements. The design of micro-learning activities through micro-steps in digital media environments is based on micro-learning, which is a daily reality for today's workers and are used in learner's daily routines and activities. Micro learning often uses technology based media, which reduces the cognitive load on the learner's learning approaches and accessibility. So, the selection of objects and timing of micro learning activities are important for didactical designs. Micro-learning doesn't need to have separate learning sessions because the learning process is scheduled in the daily routine of the end-user. Micro learning is nowadays being used in cell phone and other smart devices of today's era. The use of game thinking and game mechanics in a non-game context to engage users and solve problems is called Gamification [9]. Personalized Learning is the tailoring of pedagogy, curriculum and learning environments to meet the needs and aspirations of individual learners as being required in their daily activities with a schedule[2]. Personalization is broader for individualization or differentiation in that it affords the learner a degree of choice about what is to be learned, when it is to be learned, and how it is to be learned.

This doesn't mean the unlimited choice as learners will still not have targets to be met, but it provides learners the opportunity to learn in ways that suit their individual learning styles, multiple intelligences, and flexible places and times.

## 3. Synchronous E-Learning Vs. Asynchronous E-Learning

There are two categories of e-learning in today's world: synchronous and asynchronous. Both have their own pros and cons, and the technique used by the student depends upon their method of taking and understanding the information that is being provided [28][2].

### 3.1 Synchronous learning:

Synchronous e-learning is online chat and videoconferencing. For example, instant messaging that allows students and teachers to ask and answer questions immediately, is synchronous [3]. Participants in Synchronous learning courses are able to interact with other students and their teachers during the lesson [4],[9]. The synchronous learning is used by the students because it enables students not to feel isolated or alone as they are communicating with others throughout the learning process [19]. However, synchronous

learning is not as flexible in terms of time as students would have to set aside a specific time slot in order to attend a live teaching session or online course in real time. So it is not suitable for the students with busy schedules [2].

### 3.2 Asynchronous learning:

Asynchronous learning can be utilized when the student or teacher is offline and it is flexible with respect to timing. Web, and email are two of the best examples of delivering course materials to the students in asynchronous e-learning. Right now learning students complete the lessons without anyone else by the use of the internet, rather than being online for classes [10]. The student can discover the lessons at any possible time and complete the work and assignments. By along these lines the students can enjoy the time flexibility and can complete the undertaking whenever. However, one of the disadvantages of this e-learning is that the students don't have direct interaction with other students and teachers [25]. Asynchronous learning can likewise lead the student to be isolated and there is no direct correspondence with other students and teachers, and it doesn't provide the educational environment like in synchronous learning [10],[9]. Both asynchronous and synchronous learning are the effective methods for e-learning with its advantages and disadvantages included in both. These modes of e-learning benefit students and teachers regardless of their schedules or preferred learning methods. It is a sort of immediate needed help, while as yet enabling them to learn at their own place with flexible planning.

## 4. Adaptive-Learning

Over the most recent couple of years, the data technology for education has been switched to e-learning systems. E-learning systems have been strengthened by the World Wide Web (WWW) and the Internet. Joining the use of the internet for teaching and learning methods has introduced a new era of opportunities and challenges out yonder education system. E-learning is delivering major educational material to the learners and distance education seekers[14]. Adaptive e-Learning is a new methodology which is an effective apparatus by adjusting the learning materials and all linkage structure to users related to their knowledge and behavior [23],[14].

Each individual learner with different learner-characteristics and different levels of way to deal with Adaptive e-learning has different education abilities which varies from learner to learner, as indicated by their level of knowledge, interaction, and aptitudes [15]. The Adaptive e-learning system can deliver the course content in a flexible manner, with the goal that it gets the best learning result. An adaptive system chips away at the student model, and approaches the learner's characteristics to optimize the learning outcome [16],[17],[18]. The adaptive e-learning system plans to keep track of usage and to accommodate content consequently for right student, presumption and knowledge. This student model is adapted for the interaction of the e-learning system as indicated by the user's demands [16],[17]. E-learning systems can be more effective utilizing adaptive e-learning systems which will improve the students abilities and knowledge.

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