

EMERGENCE OF E-LEARNING WITH SPECIFIC FOCUS ON ITS HISTORICAL REVIEW

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ABSTRACT

This article provides a historical review of e-learning, summarizing various studies related to its origins and explaining how it has evolved over the years. The review is well-organized and clearly outlines the historical progress of e-learning. Additionally, this study includes a systematic literature review that traces the history and development of e-learning from its earliest days to the present. E-learning as the delivery of education through various mediums, including electronic media such as intranets, extranets, the internet, satellite TV, audio/video recordings, CD/DVD-ROMs, and memory sticks. Today, MOOCs, mobile phones, and Learning Management Systems (LMS) are widely utilized in e-learning around the world.

Keywords: Emergence, E-learning, Historical review, Tools, Phases

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INTRODUCTION

The advancement of information and communication technology (ICT), including cloud computing, modern learning materials, and reliable networks, has introduced a new paradigm in education—e-learning. This shift is particularly significant for English language learning [1]. E-learning has revolutionized the educational process by continuously transforming the implementation of education worldwide [2]. It is recognized as an essential tool for meeting the demand for highly qualified specialists in today's technological landscape [3]. Since its inception, e-learning has been viewed differently based on educational approaches, context, and implementation.

The terms web-based learning (WBL), web-based training (WBT), web-based instruction (WBI), internet-based training (IBT), distance education, online learning, blended mobile learning, remote learning, virtual learning, and off-site learning were all used before the term "e-learning" was coined [4-7]. In essence, e-learning encompasses various tools—both synchronous and asynchronous [8]—that enable teachers and students to create an interactive and autonomous learning environment. It is argued that asynchronous e-learning relies on media such as email and discussion boards, fostering collaborative relationships among learners and instructors even when

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participants cannot be online simultaneously. Researchers further describe it as a form of flexible learning, allowing learners to study at their own convenience. In contrast, synchronous e-learning is dependent on internet connectivity and real-time media such as instant messaging, Skype, Zoom, and Google Meet. The primary objective of this study is to provide a historical review of e-learning.

E-LEARNING DEFINITION AND SCOPE

This study draws on existing research from various reputable scholarly journals and books. The selected databases were chosen for their high rankings. An extensive review of historical research papers and chapters related to the origins of e-learning was conducted to inform this review. The articles identified for their historical relevance were examined, and their findings were discussed, starting from the earliest discoveries and concluding with the latest advancements in e-learning practices [9, 10].

E-learning is a form of learning that has emerged from advancements in information and communication technology (ICT). It can be broadly defined as learning supported by any electronic device, from computers to mobile phones, which may or may not involve the use of the internet or intranet [11]. E-learning can be delivered through various means, including computer hardware devices (such as multimedia projectors), software, and websites. Additionally, some applications have been specifically designed for e-learning, such as virtual learning, which allows for E-learning as ICT and Internet

E-learning is defined as an internet and web-based system that enhances learning and teaching through the use of software applications and tools [12]. The integration of information and communication technologies, which has converted learning from an analog to a digital format, is represented by the "e". An innovative method

of delivering education by electronic means that improves students' performance in knowledge, skills, or other areas is called e-learning. This transformation in education has been made possible by the usage of networked technologies. E-learning supports learning through "the use of information and computer technologies to create learning experiences," according to a number of studies that show how the internet can be a flexible learning tool that lets students learn at their own pace and expands opportunities for contemporary teaching and learning. This concept includes any educational opportunities made possible by computer technology, whether they take place in or outside of a classroom [13-19]. The outcomes of e-learning depend on the design (the decisions made by the teacher) and development (the implementation of those decisions). Additionally, e-learning encompasses standalone courses for individual learners, learning games and simulations, mobile learning, and social learning that occurs on platforms such as Facebook, online discussion forums, and virtual classrooms [20].

E-LEARNING TOOLS

E-learning encompasses all electronic tools used for learning. Some researchers adopt a broader perspective, defining e-learning as the delivery of education through various mediums, including electronic media such as intranets, extranets, the internet, satellite TV, audio/video recordings, CD/DVD-ROMs, and memory sticks [21-25]. E-learning is dependent on a number of technological tools, such as personal computers, media players, web browsers, email programs, internet connections, microphones for audio conferencing, client software for online meetings, and video cameras for video conferencing, in addition to Learning Management Systems (LMS). Additionally, e-learning includes software tools like Microsoft Word, PowerPoint, Excel, PDF

readers, whiteboards, screen casting, and audio and video broadcasting techniques including podcasts and webcasts, as well as webcams and YouTube. Other academics claim that social networking sites, e-books, webinars, chat rooms, web conferencing, email communication, and the delivery of multimedia programs without regard to time or location are all elements of e-learning [26].

E-LEARNING EMERGENCE PHASES

E-learning originated from the mail-learning method used in correspondence courses. Sir Isaac Pitman pioneered this approach in 1840 by introducing mail courses that taught shorthand, marking the first distance learning course. His method aimed to improve writing speed; he would mail assignments to students, who then returned their completed tasks by post. Thirty years later, in 1873, Anna Eliot Ticknor established a society in Boston, Massachusetts, that promoted home studies based on the correspondence model, which is a form of distance education where teachers and students are physically separated [27]. However, this system faced criticism for lacking support for two-way communication, leading to arguments that it could not be considered formal distance education.

Almost a year later, Illinois Wesleyan College became the first academic institution to offer degree programs “in absentia”. As technology evolved, the mediums of distance learning were adapted, although the fundamental concept remained unchanged. In 1920, Sidney Pressey introduced the teaching machine, which was later popularized by B. F. Skinner’s “Glider” in 1954. Unlike Pressey’s machine, Skinner’s version focused on teaching students rather than merely testing them, empowering schools to provide programmed instruction.

Following this trend, Iowa University introduced the first “radio course” of five credit hours in 1925, utilizing the new medium of broadcasting to reach a wider

audience. This innovation led educational institutions across the United States to adopt radio courses, with 176 radio stations aligned to meet educational goals. These distance learning courses utilized radio for instructional delivery, and by the mid-1930s, the University of Iowa also incorporated telephone and television into their distance courses. As student interest in such courses grew, the Annenberg Foundation and the Corporation for Public Broadcasting (CPB) developed “Tele-Courses” for universities in remote areas of Alaska, where harsh weather prevented students from attending campuses. Over time, these courses became an integral part of educational practices. The “communication revolution,” which began with the telephone and progressed into the “Network Revolution” with the advent of the internet, email, and the World Wide Web.

During this era, the Computer Managed Instruction (CMI) system evolved into Computer Based Training (CBT) and Computer Based Learning (CBL). This led to the development of Communicative Computer Assisted Language Learning (CALL), although behaviorist CALL had already been practiced with the invention of PLATO. PCs offered language educationists contributed to the development and fortification of the principles of Communicative CALL, leading to the design of many software packages”. In this context, computers served as tools to check spelling, grammar, and text reconstruction.

In the early 1990s, e-learning began to take shape through CD-based training. Previously, information was primarily delivered in text format, but the advent of this low-cost media storage device allowed for the storage and transfer of text, digital video, audio, graphics, and animations. Users could access this multimedia content using a computer, monitor, and speakers. The development of integrative Computer-Assisted Language acquisition (CALL) later in the 1990s, which

sought to integrate multimedia technology into the teaching and acquisition of all four language skills—listening, speaking, reading, and writing—coincided with this spread of multimedia technology [30-33]. By the late 1990s, e-learning had evolved from *being merely supplementary* to becoming an *integral* part of course and program curricula. As a result, schools began to implement e-learning through activities such as creating electronic pen pals, organizing virtual field trips, consulting experts via various applications, and participating in question-and-answer forums. Universities also adopted e-learning by requiring students to submit assignments online via email, conduct research on the web, and complete online quizzes and grade books.

Around 1998, the invention of the World Wide Web (WWW) enhanced the learning experience by providing enriched text and graphics accessible worldwide. The WWW quickly surpassed CDs as a source of educational materials, offering learning instructions online, as well as study groups, chat rooms, newsletters, and interactive content. WWW is “an international online database that allows the sharing of linked multimedia documents”. This development facilitated the global spread of the internet, which in turn lowered access costs and made it available to a broader segment of the middle class.

The easy access to the internet has significantly increased the popularity of Web-Based Training (WBT). WBT is a form of computer-based training that utilizes web browsers, allowing learners to access organized learning materials online. Consequently, the World Wide Web (WWW) has emerged as a crucial technological advancement, playing a pivotal role in the development of integrative Computer-Assisted Language Learning (CALL) and e-learning. It has expanded opportunities for interaction among peers and between

teachers and learners. New programs have been introduced to enhance communication between teachers and students in the learning process.

Since the start of the 21st century, the growth of the internet has led to the creation of Learning Management Systems (LMS), which are defined as online technologies for the management and delivery of course material [34]. The first web-based LMS, named Cecil, was developed in 1996.

New initiatives have transformed e-learning into a more interactive and communicative experience by providing open access and self-learning platforms, such as Massive Open Online Courses. This term was introduced by George Siemens and Stephen Downes in 2008 during their course titled “Connectivism and Connective Knowledge” at the University of Manitoba, which attracted 2,300 participants from around the world. This model, known as cMOOC—where the “c” stands for “connectivist”—inspired many instructors across various disciplines to experiment with different pedagogical approaches for autonomous learners. The advancement of digital technology has sparked an educational revolution, shifting from traditional face-to-face learning to online formats [35-37]. Due to the success of MOOCs, Sebastian Thrun founded Udacity, the first private MOOC company, which was soon followed by a number of other e-learning platforms such as Coursera, FutureLearn, and EdX. These websites began offering online courses and established memorandums of understanding (MOUs) with various universities worldwide, enabling millions of students to benefit from online education.

Today, MOOCs, mobile phones, and Learning Management Systems (LMS) are widely utilized in e-learning around the world. It was noted that the LMS market was valued at \$2.65 billion in 2013, with projections to reach \$7.8 billion by 2018.

Further research anticipated that demand for LMS would grow to \$31 billion by the end of 2021. It was found that over 49% of students have enrolled in online courses in recent years, a significant increase compared to the previous decade [38-40]. Consequently, many universities have begun offering not only individual courses but also entire degree programs online.

The sudden and rapid shift from traditional face-to-face learning to virtual online education posed numerous challenges related to digitalization, particularly in developing countries. The lack of resources emerged as a significant challenge for teachers, students, and educational institutions. It was noted that Covid-19 exacerbated existing inequalities within the education system and heightened the demand for affordable and universal internet access. This shift also led to the social marginalization of students; some could afford devices, internet packages, and suitable environments for online learning, while others could not. Consequently, disparities in access to technology and the internet negatively impacted students' ability to succeed in a digital learning environment. Additionally, the pandemic reduced opportunities for interaction and socialization

among students, further hindering their educational experience [41].

CONCLUSION

This article has looked at how e-learning has changed over time, from mail courses to contemporary online learning environments. Significant improvements in education have been brought about by e-learning, which is still developing while tackling persistent issues. E-learning has grown since then and established itself as a valued and essential part of education. Its influence can be seen in almost every educational institution. In order to satisfy the expectations of modern education, webinars have gradually replaced workshops, training sessions, seminars, and conferences.

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