# The Expectations and Reality of E-Learning

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**ABSTRACT**

Following the historical and technological shifts that led to the wide emergence of transformative educational methods, this study offers a developmental perspective to the reality of E-learning. The study further discusses the development of E-learning applications and assess the availability and appropriateness of the educational curriculum and related pedagogical constructs in an Internet networked learning environment. In addition, there is an attempt to address the theoretical foundations of E-learning environments and the educational implications and affordance in the contexts of E-learning. The study, meanwhile, focuses on the effectiveness of E-learning, its advantages and disadvantages and explores how virtual learning is enhanced by merging its principles with the use of new technologies in education, how virtual learning may be improved by integrating educational principles with the use of modern technologies in the classroom, and how modern social practices influence the roles of both instructors and students.

**Keywords:** e-learning, computer networks, computer-mediated learning, digital curriculum, multimedia

## INTRODUCTION

E-learning can be defined as a method of education using modern communication mechanisms such as computers, networks, multimedia, and the Internet to deliver educational materials to learners in the fastest time and at the lowest cost in a way that enables the management of the educational process to control, measure and evaluate the performance of learners (Shatnawi, 2019). According to OECD (2016) the origins of e-learning date back to the early mechanisms of curricula that extend beyond the confine of the traditional classroom, this resource further maintains that distance learning was already applied and widely used so that it has become more dependable, from an academic perspective, and developed as a more robust and systematic alternative educational option in the second half of the twentieth century. This is mainly due to the rapid development of new technologies and the increased demand for higher education. Rami and Al-Tameemi (2021) point out that "virtual reality technology appearance in the educational fields was in the nineties of the last century when its actual use began on the educational application in various academic institutions for both learners and teachers, starting from the elementary stages and ending by the university stages, and for the various academic subjects" (p. 3899). While Wang et al. (2010) argued that "e-learning refers to the use of computer network technology through the Internet, to deliver information and instructions to individuals" (p. 167), e-learning is one of the methods of education that sends information to the learner in modern

communication mechanisms by using computers, smart devices and networks, different multimedia, graphics, electronic libraries, and so on. E-learning can be used from a distance or in the classroom. Stated otherwise, e-learning aims to pass the information to the learner with less effort and the greatest benefit (Kratochvílová & Kratochvíl, 2017). According to Kong (2019), "e-learning encompasses not only the use of technology for learning and teaching, but also pedagogical issues such as how to support learning effectively, promote interaction, and facilitate pedagogical decision making through the use of digital resources, digital communication tools, and data collection" (p. 28).

E-learning enables the learner's particular needs to be met. "This includes, but is not limited to, determining the type of media to be employed. It could be text, audio, videos, pictures, presentation with images, etc. In addition, more flexibility can be provided in the scope and arrangement of educational materials during the learning process by adding so-called learning paths to the standard navigation" (Lecon & Hermann, 2020, p. 35-36). It is right to say that E-learning is technology-based learning and many terms are used as its synonyms. The list may include virtual learning, computer-based learning, and distance learning via electronic channels, but the term e-learning is more commonly used than the other terms. As for the options open to the users, in the e-learning environment, the learner uses multimodal tools and contributes to the educational content widely existing and available to him/her on the Internet. The learner can plan, build, and customize the existing content according to his/her knowledge needs that differ from one learner to another. Whether created by individuals

or institutions, the educational content reflects a feature of the modern learners, which is the feature of cognitive power resulting from the abundance and diversity of information.

The era of population and knowledge explosion imposed new requirements to enable learners to assimilate learning, including its media, means, skills, and appropriate use and employ it. Teaching scientific content by traditional methods is no longer the norm for 21st century teachers. Rather, they must keep up with global advancements in teaching approaches. Taking advantage of world progress in the means of communication via computer networks, faculty members build their own homepage, as well as the scientific material for each subject they teach and train students to develop and circulate the content of scientific materials from the homepages. Accordingly, OECD (2016) maintains that "An open and accessible Internet, with high fixed and mobile bandwidth, is essential for innovation in the 21st century" (p. 36). The Internet has provided many opportunities for professional development for teaching scientific content through educational cooperation between teachers nationally and internationally. Furthermore, numerous studies have proven that e-learning helps unify the bonds of collaboration between faculty members and colleagues with common interests by sharing ideas, curriculum materials and other resources through e-training and online lectures. As one of the study cases in Kong's (2019) research showed that "partnership schools share common goals, objectives, and expectations in e-learning collaborate for mutual benefit on technical, resource and pedagogical supports for e-learning implementation" (p. 42).

Research indicates for tracking the characteristics and qualities of quick and successive transitions and difficulties in the field. Despite the fast rise of modern educational technology, its application and efficacy in education are still intangible. As a result, educational institutions must take the lead in directing their programs to take advantage of e-learning. Various research works have already mentioned some e-learning concerns, such as weak learners' familiarity with e-learning software abilities and poor learners' knowledge of the significance of e-learning in the teaching and learning processes. As Mesfin et al. (2018) points out, "the majority of e-learning initiatives in developing countries do not fulfil their potential because of low ICT literacy rates among the student community" (p. 160).

## LITERATURE REVIEW

There is a wealth of literature on the effectiveness and importance of e-learning, its impact and its role in changing teaching methods. The current research relies on the following literature and research as primary sources:

1. "Web 2.0-based e-learning: Applying social informatics for tertiary teaching" by Mark J. W. Lee and Catherine McLoughlin (Lee & McLoughlin, 2010). The authors discuss the utilization of Web 2.0 tools and their impact on our life.

2. "Multimodality and literacy in school classrooms" by Carey Jewitt (Jewitt, 2008). In this article, the author analyzed three views: new literacies studies, multiliteracies, and multimodality. The author discussed the extent to which the landscape of communication is shifting in deep ways, extending to schools and other commonplace aspects of daily life and discusses classroom multimodality and literacy and what these shifts signify for literacy in the 21st century. His primary point

is that literacy cannot be thought of purely as a linguistic achievement and that the time for the habitual association of language, print literacy, and learning is over. He highlighted the main definitions in an expanded approach to modern literacies and understood them in the present study literature.

3. "Role of computer-mediated communication in solving collaborative learning empowerment problems in higher education: A case study of Oman" by Habib Ullah Khan (Khan, 2006). In this article, the author refers to the concept of cooperative work and its acceptance in all disciplines and in all areas of scientific and practical life these days. He argues that students benefit from teamwork in cooperation with their colleagues, faculty, and the community, through immediate educational and social benefits, critical thinking benefits and long-term professional benefits. He confirms that these benefits are difficult to achieve through face-to-face interaction in Arab societies due to inherited traditions, religious and cultural factors, especially concerning females' participation in exchanging information with their male colleagues. He discussed the gender problems in collaborative work in developing states. The author suggests that the best solution to overcome these challenges is through computer-mediated communication (CMC). According to the author, information technology could be used to empower group members in collaborative projects.

4. "Digital literacy in academic language learning contexts: Developing information-seeking competence" by Janel Pettes Guikema and Lawrence Williams (Eds.) (Guikema & Williams, 2014). In the first part of the study, the authors focus on using digital technologies in searching for information in one's first language and a second language and how social communication has changed and impacted the four skills of learning, reading, writing, speaking, and listening, which dominate the media of communication. In the second part of the study, the authors point out the increasing public awareness in searching for information. Furthermore, they examine the usage of sources, keywords, search methods, and how the efficiency of the information-finding was developed as part of digital literacy in an academic setting.

5. "Distance learning in an extraordinary circumstance (COVID-19): An initial assessment of student experience and coping in a trinational study programme" by Jörg Christian Wombacher (Wombacher, 2020). The study aimed at evaluating students' experience and adapting to e-learning in light of the COVID-19 pandemic, in a joint program between three French, German, and Swiss universities, on a sample consisting of 157 individuals from the three universities, statistical comparisons, and indicators were used. The study results showed that students believed that professors were highly committed to adapting to e-learning curriculum and were working to facilitate and make it easier for students to move to e-learning in a short period. Yet, it is unclear what teachers expect of students, as some professors need to change their lesson plans. Before they can integrate further into e-learning education, the students live in a state of pressure as a result of dealing with the new situation due to the heavy burden they bear from the lack of coordination between subjects in the required tasks. The

tools used for learning include Moodle, Email, and Webex and the appropriate infrastructure, while the students prefer presentations accompanied by audio with sometimes direct sessions for discussion and clarification of tasks, and the students see that sessions of more than two hours are ineffective. Many factors affect e-learning, some of which support the need for it, and some of them make it compatible with other traditional methods of education. Having the above-mentioned issues in mind, in the sections that follow the advantages of e-learning, the motives of interest in e-learning education, the barriers to e-learning, e-learning curriculum, and developmental stages of e-learning are elaborated and discussed.

## THE MERITS OF E- LEARNING

The Internet is one of the most important technological achievements in the current era, as it serves humanity with its rapid spread and efficiency in providing information. The importance of education is growing due to its potential to provide a rich learning environment, particularly since e-learning began to assume its position in academic institutions to assist with explanation and clarification. The concept of e-learning is a learning technique based on formalized teaching, but that uses a range of electronic resources. E-learning can take place both inside and outside the classroom by offering courses and educational programs using computers that are completely reliant on the Internet.

E-learning is made possible by creating, designing, and implementing educational materials, programs, and learning experiences that are offered to people for them to achieve certain educational outcomes. It allows the learner the freedom to choose courses, learning methods, and teaching materials that suit the learner's needs and desires, and thus this system is characterized by the learner's self-control in the learning process. E-learning is also based on a variety of educational methods, the most important of which is individualized education, which focuses on the student and makes him/her the center of the educational process, as e-learning is primarily based on interactive computer technology that can be programmed to meet the student's needs and to learn in a speedy mode. The learner depends on the multiplicity of educational materials instead of the lecture or lesson in the educational institution. OECD (2005) stressed on the need to prepare educational content to achieve the following requirements: (i) flexibility allows the learner to be free and self-paced; (ii) interactivity with educational content and materials or programs reinforcement during the learning process; and (iii) support during the learning process through an assessment.

E-learning promotes teacher collaboration, resulting in more effective educational collaboration. It also makes it easier for local and foreign professionals to collaborate, particularly at the postgraduate level, inside and outside the country boarders. It facilitates communication and feedback between the teacher and the students, hence improving the efficiency of the teaching and learning process. It also allows learners plenty of time to ponder and contemplate before responding or expressing an opinion. In some types of teaching, non-print media is required, as it cannot be taught in an effective manner that meets the requirements without using the modern audio-visual media provided by e-learning.

E-learning supports cooperative learning and teamwork by connecting learners, even if they are geographically separated. It also encourages public seminars and the exchange of opinions between individuals and those with common interests. It also helps to raise the interests and desires of learners by providing an educational environment rich in diverse knowledge and experiences, allowing each learner to pursue his/her interests. It also contributes to developing higher-order thinking talents through problem-solving and concept organization through creative scientific thinking. It benefits in achieving education's purpose of establishing new trends and changing behavior. It provides privacy in the educational process where individuals differ in their absorptive abilities, and learning takes place in isolation and allows trial and error without any feeling of embarrassment. It provides curricula throughout the day and on all days of the week to give flexibility and smoothness in the educational process, allowing community members to learn despite special circumstances and family responsibilities. Because of the tremendous development in the e-learning methodology, there is ease and multiplicity in assessing the learner's stage in the e-learning system, as it provides tools that analyze grades, results, tests, and quarterly work. Finally, it enabled maximum benefit from information and research, as technology gave the learner immediate access to information in the appropriate place and time.

## MOTIVES OF INTEREST IN E-LEARNING EDUCATION

The following are some of the reasons why people are becoming more interested in e-learning:

1. Increased demand for institutions and universities and its inability to accommodate the students.
2. Increasing demand for education, training, continuous development and lifelong learning.
3. Increased demand for knowledge-based labor in the knowledge society.
4. The necessity of renewal and development in higher education institutions.
5. The need to reduce training costs.
6. Increasing awareness of the significance of e-learning and the features it provides.
7. Assisting learners in learning and becoming self-sufficient and developing a generation of learners responsible for their education.
8. Raising the return on investment by reducing the cost of education.
9. Breaking down the psychological barriers between the teacher and the student.
10. Create a clear mechanism to deal with the increased amount of information available to learners due to technology advancements and innovations.
11. Satisfy the needs and requirements of the learner (Zakariaha et al., 2011).
12. E-learning is environmentally friendly process. The more we rely on e-learning, the more we reduce the environmental

pollution resulting from the manufacture of paper books, which come from nature and thus help mitigate global warming indirectly. A study conducted by the Open University in Britain found that producing and providing e-learning courses reduces the equivalent of 90% of energy consumption and 85% of $CO_2$ emissions for each student receiving face-to-face education (Roy et al., 2005).

## BARRIERS TO E-LEARNING

Interest in e-learning is universally acknowledged as a must lies approach which is technology-oriented. Accordingly, e-learning has spread through the international information network, "the Internet", and many websites have appeared that take this type of education as their basis. The number of these websites are ever increasing, examples of these websites are Coursera, Khan Academy, Open Culture, Academic Earth, Massive Online Open Courses, and many more, which aim to provide an interactive learning environment for learners from all over the world through continuous scientific development of educational curricula and focus on skills related to information technology. Moreover, there are many websites for reliable resources such as Academia, Google books, Google scholars, ResreachGate etc. However, some argue that the use of network applications in education by faculty members is less than expected and is progressing very slowly due to a lack of awareness of the importance of this technology or inability to use it. The rapid development of international standards requires many modifications and updates in electronic courses (Crossley & McNamara, 2017).

There are some considerations about e-learning which limited its acceptance by those in charge of the educational process in some countries. Some of these limitations include, the high economic costs of e-learning compared to classroom attendance, the high dropout rate among e-learning students, limiting the role of the teacher in preparing and developing the academic curriculum, priority of commercial goals than educational ones and weak infrastructure for e-learning, especially in rural areas, where electronic devices and modern communication networks are not available.

One of the drawbacks of e-learning is its reliance on technologies that are still unreliable. For example, the Internet is still ineffective or of low quality in many places in the world. Also, using it effectively requires the student to be familiar with the use of technology well. According to a study conducted by Al-Araibi et al. (2019), "45% of e-learning projects in developing nations are utter failures, and only 15% of them are succeeding, citing technology challenges as the key criterion for e-learning system success. (Almaiah et al., 2020, p. 5265).

## E-LEARNING CURRICULUM

Educational software is an application that uses a computer to teach a learner certain educational content. Electronic educational courses are classes that are similar to traditional courses in terms of the presence of the teacher and students. However, they are held on the global network (GN), where they are not restricted by time or location and in which virtual learning environments are created so that learners can engage easily through networks to participate in collaborative learning situations using asynchronous tools and techniques. The educational material between the teacher and the learner is indirect and not governed by a specific time, such as browsing the academic lessons, messaging between the learner and the teacher, transferring files and documents, and messaging via e-mail, simultaneous tools and techniques. The teacher is linked with the learner in a real educational environment, the teacher communicates with the learner directly, such as text and audio conversations between learners and their teacher. E-learning increases the possibility of academic cooperation between learners through communication and discussion boards, e-mail, and dialogue rooms to facilitate contact between various parties in multiple directions, increasing opportunities for discussion and exchanging views. It is easy to reach the teacher and academic advisor quickly and with less trouble, even outside official working hours, by e-mail. There is also a multiplicity of teaching methods to suit individual differences, as it is possible that scientific material can be delivered in a variety of ways that suit learners' different desires and interests. Some learners prefer the visual method, while others prefer the audio or reading method.

The digital curriculum helps the learners go deeper in learning and immersion in the digital curriculum. Teachers have to create digital curriculums and electronic books to interact with the students. Teachers might use videos lessons to increase the learning interrelate between the educational materials and the students. As some people think that the textbook curriculum is outdated and has become a very static resource for learning, digital curriculum is expected to create a more collaborative atmosphere between the teachers and students. Teachers can use text, images, media, audio, and interactive video.

There are many ideas for teaching scientific content in computer networks, including those related to preparing the lesson plan in different ways, and there are many sites that include lesson plans and ready-to-use lessons, and these provide teaching ideas for teachers that can be implemented immediately in the classroom. Computer network technology is used to serve the educational and teaching process and keep pace with what is happening in developed countries, good documentation of the content of teaching curricula, deepening concepts, and providing university graduates with the latest technologies of the age, which represents the optimal use of computer networks (Ghavifekr & Wan Rosdy, 2015).

## DEVELOPMENTAL STAGES OF E-LEARNING

The development of the use of e-learning and computer networks in teaching scientific content has gone through several stages, which can be summarized, as follows:

A. Exploration stage: It refers to the path of networks and their imposition on society after many experiments.

B. The stage of keeping pace with computer technology and how to take advantage of display devices connected to the computer and the spread of its use and progress in printing methods using laser technology.

C. Stage of maturity and expansion in the production and generalization of the use of hypermedia.

D. Total dependence on computer networks in teaching scientific content.

## CONCLUSIONS AND RECOMMENDATIONS

The idea of e-learning was built on the philosophy of education at any place and time, which means that the learner can obtain educational materials when he/she wants. E-learning also depends on the individual's participation in educational activities, which helps create an educational environment that allows the learner's interest in education and the desire to follow it continuously to acquire teaching skills. As the concept of sustainable education has become one of the necessities of modern life, educators believe that e-learning fills a significant gap in this field. It has several benefits that qualify it to remove barriers preventing all people from receiving an education. It is also distinguished by modernity, novelty, freedom and flexibility of time, education and assessment, and its proportionality with all learners and their psychological characteristics and needs, as it unleashes thinking, creativity and innovation. Consequently, the philosophy of e-learning is based on making education in general and university education in particular available to all, as long as their abilities and capabilities enable them to succeed in education, to work towards achieving the principle of equal educational opportunities for all teachers without distinction between gender, race, or language, and to reach students who are geographically distant or who live in remote areas and whose circumstances prevent them from travelling or moving to a traditional campus, as well as to provide educational opportunities to students who are unable or physically disabled, in particular students with special needs.

It can be claimed that activating the e-learning technology in the educational process of both teaching and learning, despite the challenges, allows the learner to obtain experience that is more real-world, interactive, and instructional, resulting in an increase in creativity in the learning and teaching process. The study discovered that e-learning technology allowed learners to participate in scientific experiments based on mobile observations and encouraged them to engage and immerse themselves in them. Learners were also encouraged to make a decision instantly and allow trial and error, allowing them to acquire experiences that would normally take years of professional and practical expertise.

Life is constantly developing in all areas. In light of the massive development in the field of technology and communications around the world, it is necessary to consider the development of education in all its forms and specializations. E-learning has become a reality imposed on all countries, especially after the COVID-19 pandemic. We see the world moving towards this process in learning and education. It still requires great attention and efforts to adopt it as a method recognized by all governments.

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