

Efficiency of Learning Modes in Educational Institutions: Traditional, Electronic, and Blended learning

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Abstract

The intent of this paper is to unveil the effectiveness of different learning environments (traditional, electronic, blended) in educational institutions through a set of dimensions: an introduction to traditional education and e-learning, the importance and objectives of e-learning, the difference between e-learning and traditional education and teachers' roles in e-learning, the challenges facing the use of e-learning. It also introduces blended learning, providing an account about its emergence, concept, importance, the difference between blended learning and e-learning, the advantages of blended learning, and the challenges confront using blended learning.

Keywords:

traditional education, e-learning, blended learning, educational technologies

1. Traditional Education

Since its inception, the purpose of traditional education is to preserve human survival through attention from the generation of parents, transferring professions to the generation of their children, and providing them with the skills and knowledge required for their survival. After the emergence of formal education, societies contributed to its establishment to preserve its survival and transmit its civilizational and cultural heritage from one generation to another is based on three fundamental pillars: the teacher, the learner, and the information. Traditional education takes its strength from the presence of the teacher and the learner in a face-to-face educational situation, which contributes to the transfer of information, providing immediate feedback, attention to feelings, and the ability to positively influence the learner. Its focus is on the transfer of knowledge by the teacher as it is the basis of learning. The role of the learner is to receive information without making any effort to search for it because the learning method used is the lecture method, thus providing the learner with a large amount of information in the course, which is the old concept of the curriculum.

This type of education was suitable for many societies before the emergence of communication and information technologies and their impact on many fields, including educational sector. Researchers and practitioners

sought to take advantage of to create active learning that effectively engages the learner in the educational situation. [1] advocated that traditional education seeks to benefit from available traditional resources without benefiting from modern technologies. These resources are:

1. Spatial resources: buildings and halls wherein teachers meets with their learners.
2. Human resources: the workforce that provides educational services, including teachers.
3. Tools: the means used for the educational process.
4. Work systems and procedures: administrative systems used to manage the educational process.
5. Plans, work programs and educational curricula.
6. Financial resources: the expenditures provided by educational institutions to secure human competencies and educational requirements.

Noticeably, the development of modern technologies, many educational institutions have adopted e-learning, which will be discussed in the following part.

2. Electronic Learning

Information and communication technology has contributed to the development of many educational systems, primarily the electronic learning. It is currently considered a vital pillar in education, as it depends on modern communication technologies. It is not just a transfer of educational content from paper to electronic medium. It is an integrative process for all the various elements of the educational environment in light of the developments of the digital age that educational systems seek to achieve. E-learning includes employing different types of information and communication technology to acquire experiences of all kinds of information, knowledge and skills and communicate them to others regardless of time and place restrictions.

Researchers have provided several definitions of E-learning. For example, [2] contend that e-learning includes the acquisition and dissemination of knowledge through information and communication technology or electronic media. Also, [3] and [4] asserted that e-learning means acquiring or acquiring knowledge and skills using electronic educational technologies such as: computers and media such as CDs and mobile phones, and

educational curricula based on the Internet and large local networks the use. For [5], it as a computer-based educational tool or system that allows the learner to learn anywhere and at any time and is often provided via the Internet or computer-based education only. Furthermore, [6] defined it as one of the forms of distance education using modern communication mechanisms to deliver information to learners as quickly and less costly and in a way that enables the management and control of the educational process and the measurement and evaluation of learners' performance.

According to these definitions, e-learning depends on digital technology, including computers, the Internet, and various computer media such as sound, images, graphics, and mechanisms for searching for information in providing different types of education and training to learners, and that learning through this type does not require adherence to a factor time or place, and that it aims to conserve time and cost. It also includes communication methods between learners each other and between them and the teacher, which significantly facilitates the education process, and this signifies the importance of e-learning.

Significance of e-learning

Most e-learning advocates see that it has become a necessity for educational systems because of the educational services it provides that go beyond what was provided by traditional education. [7] and [8] asserted that the importance of e-learning has emerged through the following:

1. E-learning helps learners with special needs by taking into account their needs and overcoming their problems.
2. E-learning promotes self-learning and progress in education and communication with specialists in various fields of education.
3. E-learning makes possible a learning environment characterized by fun, suspense and diversity of stimuli, which increases learners' motivation.
4. E-learning allows the learner to choose the place and time to learn according to his circumstances, abilities and progress in learning.
5. Taking advantage of virtual environments and laboratories that provide the learner with situations rich in educational and practical experiences and a safe environment for learning.
6. E-learning provides learners with technical skills to deal with information and communication technology.
7. E-learning provides modern means of assessment through electronic tests and activities and provides immediate feedback.
8. E-learning overcomes the problem of increasing numbers and the lack of equipment and capabilities available within educational institutions

These points shows that e-learning is important in the educational field. It helps it to overcome many of the challenges it faces. Perhaps one of the most prominent challenges that have passed through education in recent years is the Corona Covid-19 pandemic, which prevented workers and beneficiaries of education from going to their educational institutions, Which made those in charge of educational institutions resort to distance education through the use of e-learning and take advantage of modern technologies in education, to help them achieve their goals and reduce the negative effects of Covid-19.

Objectives of E-learning

[9] and [10] mentioned that electronic learning aims to achieve a set of goals:

1. Assisting teachers in preparing educational materials for learners and making up for their lack of experience.
2. The possibility of compensating for academic and training cadres shortage in some educational sectors through virtual classes.
3. Disseminating technology in society and providing a broader concept of continuing education.
4. Providing multiple and different sources of information that provide opportunities for comparison, discussion, analysis and evaluation.
5. Exchange of educational experiences through e-learning media.
6. Developing the skills and abilities of learners and building their personalities to prepare a generation capable of communicating with others and interacting with the changes of the age through modern technical means.

These goals illustrates e-learning as helpful for educational institutions to achieve their goals by spreading the culture of e-learning, facilitating access to information and comparing it with different sources, overcoming the shortage of educational staff, and providing learners with technical skills that help them self-learning and searching in various sources of information with ease.

Difference between Electronic and Traditional Learning

Several differences between e-learning and traditional education are abound from different aspects [11], [12] and [7], the most prominent of which are the following:

1. the study programs in e-learning are prepared well before the beginning of the school year by a team of specialists and identify the tools that the teacher and the learner can use. In contrast, in traditional education, the teacher prepares the lesson individually at the beginning of the school year.
2. Learners can learn not only from the teacher as the only source of information, but e-learning provides various resources that allow the learner to interact with them.

3. The educational process in e-learning is either simultaneous or asynchronous, while traditional education is only simultaneous.
4. Electronic courses focus more on the learner, while the teacher controls traditional courses.
5. E-learning provides a safe learning environment away from the risks the learner may face when practicing dangerous experiments, as happens in chemical laboratories or studying volcanoes and space topics through augmented reality.
6. E-learning provides an opportunity for everyone to learn so that the learner does not have to be of a specific age or affiliated with an educational institution by encouraging learners to learn lifelong.
7. E-learning provides multiple alternatives for assessment more than traditional education, such as: conducting rapid electronic tests, writing scientific research, writing reports, completing projects, and other electronic assessment tools.

Through the previous review of some of the advantages that distinguish e-learning from traditional education in terms of the involvement of specialists in the preparation of curricula and its availability in synchronous and asynchronous ways, and that it is flexible and allows the learner to control the educational content and make learning available to all, this leads us to know the roles of the teacher in e-learning.

Teacher's Roles in e-Learning

When preparing educational programs by e-learning specialists, they do not overlook the role of the teacher in the educational process but are given additional functions, some of which are different from the traditional education teacher being in e-learning, he is seen as a leader, organizer, simplified and directed to the educational process by making use of technology in streamlining and facilitating Learning. [13] and [14] postulated that the most prominent roles of the teacher in e-learning are:

- A teacher is a seeker of knowledge: it means searching for everything new and related to the topic presented to learners, in addition to what is connected to modern teaching methods and technical tools that can be used in providing educational content.
- A teacher is designed for educational experiences: The teacher must create active e-learning environments in proportion to the level and interests of learners and design electronic educational experiences that complement what the learner acquires in the classroom.
- Technological teacher: the teacher possesses technical skills that help him to communicate and simplify information to learners, and among those skills is the ability of the teacher to use learning networks and

knowledge of dealing with computers and modern technologies in sending and receiving files from learners and providing electronic feedback and others.

- A teacher is a provider of educational content: It means the teacher's keenness to facilitate access to educational content, participate with learners in dealing with it, provide feedback and guide learners towards various sources of information.
- The teacher is assessing the learning process: through the teacher acquisition of various electronic assessment methods, which allows knowing the learners' strengths and weaknesses, and then direct them towards remedial and enrichment programs appropriate to their levels.
- A teacher is a manager and leader of the educational process: In e-learning, a significant burden falls on the teacher in that his role becomes a manager of the educational situation, how to access educational content, determine the number of learners in virtual classrooms, the appropriate learning pattern for learners, and different assessment methods.
- A teacher is a motivator: the teacher in e-learning helps to generate knowledge and creativity, encourages learners to use technical means and invent the educational programs they need, and allows them to control the educational material and receive and discuss their views.
- Despite the different roles of the teacher in e-learning that were mentioned, which keep pace with our current era in terms of using modern electronic technologies in education, there are some challenges facing the use of e-learning.

Challenges of Electronic Learning

- [21] mentioned that there are some challenges that limit the use of e-learning, namely:
 - Physical challenges:
 - Lack of sufficient computers and accessories.
 - Problems of unavailability of the Internet or frequent interruptions.

Human Challenges :

- The lack of teachers' technical skills in how to use e-learning.
- Increasing the number of learners in traditional educational institutions.
- Weak desire and reluctance on the part of school leaders and some teachers to use e-learning.

Curriculum-related challenges :

- Lack of suitable e-books for learners.

- Increasing a large amount of knowledge in the traditional educational curricula and not giving flexibility in searching for information in different electronic sources.
- Neglecting systemic thinking in designing electronic courses.

Challenges associated with teachers:

- Weak courses focusing on e-learning in pre-service teacher preparation programs.
- lack of sufficient training courses to provide teachers with in-service technical skills for e-learning.

Regulatory and Legislative Challenges

- Weak privacy and confidentiality appropriate for electronic education and electronic assessment methods.
- Weak awareness of regulations that increase community awareness of the importance of e-learning

3. Blended Learning

Blended education seeks to improve the educational process through its attempt to combine the advantages of e-learning and traditional education, so we find many teachers in educational institutions integrating and using e-learning tools and environments with traditional education environments face to face for education and training and to achieve the maximum possible efficiency within the institution. Through this axis, we will learn about the emergence of blended education, its concept, its importance, the difference between it and traditional education, its advantages, and the challenges facing its use within educational institutions.

Emergence of blended learning

The use of the blended learning method for me is a modern phenomenon. Still, it is ancient and has historical roots related to the development of man over the previous ages. The old experiences of the early scholars before and after the Renaissance are considered a witness to linking education and integrating it with reality and going out to nature and benefiting from its data in enhancing the sensory perceptions of individuals. Although these experiences were presented, blended education did not enter the world of education and use it in an organized and intentional manner only in the first half of the twentieth century, when international educational institutions in the United States of America began to use some audio-visual teaching aids in the educational process [15].

It is clear from the above that blended learning is not a modern concept but has ancient historical roots by merging education methods with the various available means. This integration is called a group of terms such as

Hybrid Learning, Mixed Learning and Blended Learning (Learning). This diversity in nomenclature occurs due to multiple elements such as experience, context, learners, and resources. This research will be satisfied with blended education because it depends on the integration and mixing of tools and methods of traditional education with tools and e-learning according to what it needs. The educational situation and the following figure show the relationship between blended learning with e-learning and traditional education.

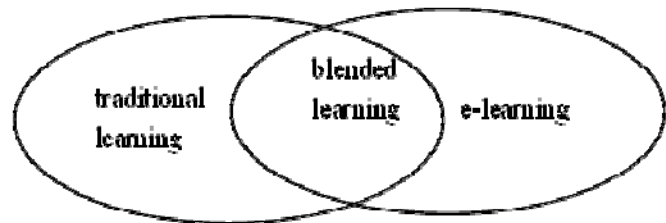


Figure 1. Relationship between Blended Learning, e-Learning and Traditional Learning

Blended learning: concept

[16] conceptualized it as a term increasingly used to describe a hybrid model of e-learning that allows the presence of traditional direct teaching methods alongside modern e-learning resources and activities in one course. [17] defined it as the concept that includes the coordination and design of the teaching process that provides for direct teaching and face-to-face instruction with the benefit of information and communication technology, as blended education includes direct education and indirect education, cooperative teaching, and individual computer-aided education. [20] defined it as education that combines different learning environments, as it combines traditional face-to-face teaching methods with methods for modern computer activities, such as content management systems, web-based learning, and mobile learning.

Importance of blended learning

The importance of blended education is evident in that it combines the best practices offered by traditional education face to face with the best of what it offers. Modern technologies produce it in terms of tools and methods for e-learning. [18], [19] and [15] confirm the importance of blended education from several dimensions, namely:

Table 1. The difference between blended learning and e-learning

Blended learning	Electronic learning
Formal Face-to-face learning	Informal Face-to-face learning
<ul style="list-style-type: none"> - The teacher leads the classroom. - Workshops. Training / mentoring. - On-the-job training 	<ul style="list-style-type: none"> - Sub-contacts. - Work teams.
synchronous cooperation	Asynchronous cooperation
<ul style="list-style-type: none"> - Live e-learning classes. - Electronic guidance. - Chat. Video conferencing. 	<ul style="list-style-type: none"> - E-mail. Internet forums. - Online discussion sessions. - Online groups.
Self-paced learning	Performance support
<ul style="list-style-type: none"> - Online models. - Links to online resources. - -Emulators- Scenarios. - Audio-visual CD/DVDs. - Online self-evaluation 	<ul style="list-style-type: none"> - Assistance systems. - Printed auxiliary tasks. - Knowledge databases/Documentation. - Performance/decision support tools

1. Providing education service in a short period by providing independent, self-reliant learning resources.
2. Enhancing the human aspects and social relations between the learners among themselves and the teachers, enabling the learners to express their ideas during their classroom participation and enjoy learning with their colleagues face to face.
3. Adequate flexibility to meet all individual needs and learning styles of learners of different levels, ages and times.
4. Keeping pace with modern educational trends in using electronic technologies in education.
5. Helping learners to form positive attitudes toward the use of information technology, which leads to a positive impact on their future lives.
6. Improving and raising the level of achievement of learners.
7. Reducing education expenses compared to e-learning alone.
8. Optimum utilization and investment of physical and virtual resources.

Difference between blended learning and e-learning

9. [15] provided a set of differences between blended learning and e-learning as outlined in Table 1.

Advantages of blended learning

A set of advantages of blended education made educational institutions adopt it to achieve many of their educational goals. Many interested and practitioners of blended education have addressed them. Among the most prominent advantages of blended education is what was mentioned [20] in the following points:

1. Creating a sense of belonging to the community without sacrificing international academic standards by strengthening the human aspects and social relations among the learning community.
2. Meeting the different needs to better achieve the learning objectives through the application of different modes of education, including teaching with information, teaching by interaction, learning by sharing, and teaching in the classroom, which require the application of the principles of active learning.
3. Combining the advantages of e-learning and traditional education, especially those related to time, place, effort, cost, and social aspects.
4. Supporting traditional teaching strategies and modern technologies, especially e-learning materials and environments.
5. Increasing the effectiveness of learning and improving outcomes by improving the learning environment and making it rich in digital learning resources that consider learners' needs and characteristics.

Challenges of blended learning

There is no doubt that despite the advantages offered by blended education to education, there are many challenges that may prevent or reduce its use in educational institutions, and among these challenges are what he referred to [15] as follows:

1. low level of experience and skill of some learners and teachers in dealing with computers and their accessories.
2. high costs of computers and its accessories.
3. low actual participation of specialists in the fields of education, education and teaching in the manufacture of integrated electronic courses.

4. low level of effectiveness of the control system, evaluation, correction, attendance and absence among learners.
5. Focusing on the cognitive and skill aspects of the learners more than the emotional aspects.
6. Weak incentives for teachers while using blended learning.

4. Conclusion

This study touched on the different concepts of the different educational environments adopted by educational institutions, viz. traditional learning, e-learning and blended learning. It is concluded that traditional learning was appropriate during the old times due to lack and development of information and communication technologies and the benefit of educational systems from it. This does not mean that traditional learning did not achieve its goals. Still, due to the different nature of learners in the present time through the use of modern technologies, which many educational institutions seek to take advantage of, we find that traditional learning is almost used only in very few circumstances. E-learning has helped educational institutions achieve many of their goals at present and has contributed to overcoming many challenges, perhaps the most famous of which is the world's response to Covid-19. It gave way to many educational systems of distance e-learning benefiting from modern education technologies and helping these educational systems achieve even part of their educational goals. Nonetheless, this does not mean relying only on technology in education, because many social skills need a teacher to develop them and involve learners in acquiring them and forming positive attitudes towards different fields. Blended education has benefited from the advantages of both the traditional and electronic learning. Hence, it works on a mixture of methods and tools of conventional education and e-learning, and searching different sources of information, whether traditional or electronic.

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