

## E. learning a mechanism to ensure quality in higher education

### - The Algerian experience as a model –

Dr. Lallouche Samira

التعليم الإلكتروني آلية لضمان الجودة في التعليم العالي

-تجربة الجزائر نموذجا-

د. لالوش سميرة

جامعة أمحمد بوقرة، بومرداس

Ahmed Bougara, University, Bumerdes,

[Samira.lallouche@hotmail.fr](mailto:Samira.lallouche@hotmail.fr)

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## Abstract

The information and communication technology is considered as one of the most important and fundamental requirements to keep up with the international changes and innovations. Therefore, the Algerian university works hard to improve its image among other universities through innovating new educational methods and merging different modern technologies by following what is known as “E. learning”. Furthermore, educational institutions today should adopt E. learning as an important and effective tool in the process of education and the one-off shifting from traditional education that depends on memorization to E. learning that depends on internet. In addition to that, the Algerian experience in the use of E. learning technology is still in the beginning, walking at a modest pace, which is not enough because it needs to provide some capacities and to realize some conditions, such as the technological, cultural and pedagogical environment.

The present study aims to highlight this new kind of education, starting from exposing a definition for E. learning and the advantages of this kind of education, in addition to its types, passing by the E. learning styles and requirements, arriving to the challenges that obstruct its application.

**Key words:** E. learning, Technology Distance, learning, Quality, Higher education.

## ملخص

تعتبر تكنولوجيا المعلومات والاتصال من أهم المتطلبات الأساسية لمواكبة التغيرات والمستحدثات العالمية، والجامعة الجزائرية تسعى جاهدة على تحسين صورتها أمام الجامعات الأخرى ولا يكون ذلك إلا من خلال استحداث طرق تعليم جديدة ودمج مختلف التكنولوجيات الحديثة، وذلك باتباع ما يعرف بالتعليم الإلكتروني. لقد أصبح لزاما على المؤسسات التعليمية تبنى التعليم الإلكتروني كأداة هامة وفعالة في عملية التعليم والتحول من التعليم التقليدي المعتمد على التلقين الى التعليم الإلكتروني المعتمد على الإنترنت. وتجربة الجزائر في استخدام تكنولوجيا التعليم الإلكتروني لازال في بدايته ويسير بخطى محتشمة وليس بالقدر الكافي، فهو يحتاج الى توفير بعض الإمكانيات وتحقيق بعض الشروط كالبيئة التكنولوجية والثقافية والبيداغوجية.

إن الهدف من هذه الدراسة هو إلقاء الضوء على هذا النمط الجديد من التعليم بدءا بعرض تعريف للتعليم الإلكتروني ومزايا هذا النمط من التعليم وأنواعه ومرورا بأساليب ومتطلبات التعليم الإلكتروني ووصولاً الى التحديات التي تعيق تطبيقه.

**كلمات الافتتاحية:** التعليم الإلكتروني، التكنولوجيا، التعليم عن بعد، الجودة، التعليم العالي

## Introduction

The most fundamental reason that lies behind the progress of nations is the interest they show for the educational system as a priority in the process of building an equipollent community. Therefore, education is considered as the vital sector on which any country depends as an indicator that measures the communities' development, and for that reason, most nations try to rise the individuals' educational level.

Besides, higher education is considered as a corner stone in the development of any nation, considering the university as a platform of science and civilization. In order to raise the university and achieve its objectives, it must follow modern developments in the field of information and communication technology being a fundamental pillar in the individual's building cognitively and culturally. Furthermore, the application of E. learning became an obligation and a necessity, as the traditional education system was incapable of keeping up with successive developments in the field of modern technology and did not respond to the employment market with all the modern competencies and accurate skills that it requires.

Adopting E. learning depends on finding the foundations and elements that make us able to establish this concept, including finding and providing the electronic lecture through the elaboration of educational materials that depend on programs and computers, in addition to providing electronic educational lectures via the university's website and finding an integrated system to manage E. learning through internet techniques.

If you take a deep look at the Algerian university reality, you will realize that E. learning realization is still somehow slow in view of the difficulties and obstacles that face it. In order to apply and propagate this kind of education, the ministry of higher education and scientific research should provide its essentials and requirements, including legislations, means and a special administration by the logistic university bodies, in addition to providing the base structures and infrastructures, including computers and networks, and elaborating electronic curricula and legal legislations.

Besides, the university administrations, teaching body and students should be convinced and excited to adopt E. learning.

This article aims to clarify the importance of E. learning application, its benefits for individuals and communities as well as the difficulties that faced university institutions when applying this education. From that point, we can define our research problematic through the analysis of the following question: what is E. learning reality in the university and what are the most important challenges that face its application?

In order to recognize the different aspects of the subject and to reply on the problematic in question, we divided our research into two topics: the first topic will be devoted to study the fundamental concepts concerning E. learning. In the second topic, we will study the requirements of E. learning activation and its application obstacles in the Algerian university.

### **First topic: Fundamental concepts concerning E. learning**

E. learning and its strategies are considered as the most modern orientations adopted by many nations because of their numerous advantages and benefits, in addition to their effect on all life fields. Furthermore, E. learning is a reliable technique that we can benefit from, especially students in universities and people working in the fields of research and scientific studies. In order to study the subject, we must define it and set its types and advantages.

#### **1. Definition of E. learning:**

Researchers disagreed about setting a particular and unified definition for E. learning terms, and for that reason, we find many definitions, including the following:

➤ E. learning was terminologically defined as: “An educational system that offers educational programs for learners or trainers anytime and anywhere using the information and communication interactive techniques, like internet, in order to provide an educational environment with numerous resources in a synchronous way in the semester or an asynchronous distance way, with no commitment to a defined place depending on self-education between the teacher and the learner” (Al-Khafadjy, 2012, p11).

➤ E. learning was also defined as: “That type of learning that employs electronic media to realize educational objectives and deliver the educational content to learners, with no consideration to time and space barriers, and these media are: modern electronic devices, such as computers and receivers, including satellites, or through computer webs represented by internet, in addition to all the other media that they provide, like educational websites and electronic libraries” (Al-Halfaoui, 2006, p26).

➤ Others also define it as: “The education that does not depend on the presence of the teacher and learner together inside a classroom, with the presence of an interactivity between them that eliminates space, not time” (Radjia, 2011, p. 107).

➤ It was also defined as: “A system that allows the possibility of transporting and delivering the scientific material via numerous tools without a need for the student to attend regularly to classrooms, because he is the one responsible for teaching himself” (Charmane, 2013, p. 111).

Out of the total previous definitions, we can present an overall definition for E. learning as an educational modern system that offers the scientific material or the educational programs using modern communication mechanisms, like computers with their webs and numerous media including voice, image, drawings, research mechanisms, electronic libraries and internet portals that are capable of offering scientific lectures and delivering information to the learner in the shortest time and with the least effort and biggest benefit.

## **2. The most important features of E. learning:**

E. learning has many advantages that make it an effective tool in developing education and increasing its competence. Among these advantages, we mention the following:

➤ E. learning increases the student’s capacity to express his opinion freely and boldly with no fear or embarrassment because of the social communication services that it provides, such as e-mails, chatting rooms and interactive videos.

- E. learning facilitates the process of reaching database and searching in them, which contributes to saving time that can be invested to acquire a new knowledge (Ahmed Salem, 2004, p. 293).
- E. learning decreases the learning's traditional needs and requirements and helps solving the problem of classrooms' crowding and tightness (Radjaa, 2012, p. 355).
- E. learning enhances the process of learning and self-reliance, so it does not work only for the student's benefit, but also the university, because the existence of a distance-learning platform contributes to improving the higher education institution website ranking (Chikha, 2017, p.p 77-94).
- The student can learn in an individual way according to his personal abilities and in the time and space that suite him, which helps him depend on himself and bear responsibility, because he is now capable of getting information without any teacher. The student also can set a partnership with a teaching body member and other students through visible chatting rooms that allow him to see the teaching body member and have a conversation with him (Hatim &Ikhlasse, 2008, p 65).
- E. learning decreases the teacher's administrative charges and his work volume in the faculty, and it provides curricula all day long and during the whole week (Zeineb &Ammar, 2015, p. 200).
- E. learning facilitates the operation of storing and restoring information, and the one of improving the collaboration level as well as the participation in the educational process. It also offers supporting services in the educational process, such as early registration and the systems of tests and evaluation (Farouk, 2012, p88).
- E. learning decreases the programs' administrative charges through the exploitation of electronic tools in the information deliverance and the use of different varied tools that are more accurate in the process of evaluation (Tahar and Bouamama, 2009,p. 466 ).
- The multitude of knowledge resources through communication with different websites or electronic libraries, as it is possible to expose a huge amount of information via websites or electronic memory or database (Ayadhe and Aissani, 2018, p. 199-206).

➤ E. learning contributes to developing the thinking as well as to enriching the learning process, in addition to the possibility of continuing to reach curricula and educational materials, because E. learning supports the self-education and the lifelong education principle (Hawamda, 2011).

### 3. E. learning types:

According to the researchers interested in studying E. learning, this latter has numerous types with different definitions from the environment's point of view where each type is applied. We mention here the most important types:

#### - **Synchronous E. learning:**

It represents the type of learning where both the student and the teacher are in front of electronic screens at the same time so that they can discuss directly in order to deliver and exchange lessons and research topics. This type of learning has many positives, such as decreasing costs and dispensing with going to the study location, and one of its negatives is that it needs to train teachers and students to use technology techniques and that it also needs modern devices and a good communication network (Ghazi, 2012, p 85).

#### - **Asynchronous E. learning:**

It is the E. learning that does not require the presence of both the student and the teacher in front of screens at the same time, as it operates through benefiting from previous experiences or via the availability of the educational material on CDs, because the learner is capable of interacting with the educational content via emails, such as sending a message to the teacher in order to understand something, then this latter shall answer him. One of the positive points of this type is that the learner gets lectures according to the times that suit him and the effort that he wants to offer. Furthermore, the student can restudy the lecture and get back to it electronically whenever he needed to do that. One of its negative points is that the learner cannot obtain the scientific material immediately from the teacher, and that it can lead to introversion as it is operated in isolation (Amel Hocine, 2013, p128).



- **Merged learning:**

It includes a set of media that has been designed to complete each other, and the merged learning program can include many learning tools, such as immediate virtual learning programs, certified lectures on the internet and self-education lectures. Besides, merged learning mixes numerous events that include learning in traditional semesters where the teacher meets the students face to face, and self-education is mixed with synchronous learning and asynchronous learning (Mouna Hadi, 2013).

**Second topic: The requirements of E. learning activation and the obstacles of its application in the Algerian university**

In order to succeed E. learning in the Algerian university, it needs necessary requirements and conditions to realize the aims it bears in mind. In addition, some obstacles and challenges block the E. learning extension and propagation in the Algerian university, and they represent, at the same time, the fundamental pillars on which E. learning success depends.

**1. E. learning requirements:**

E. learning requires concerted elements as well as material and immaterial requirements because it does not represent only the process of transporting information from a paper environment to an electronic one, but it also requires a set of requirements, which are as follows: (Mechri , 2014. p143)

➤ E. learning needs a technological infrastructure represented in an electronic linking web that binds the university with the E. learning topic and the structuring on which the web is based and which defines electronic linking and computer devices that are used to communicate, in addition to the programs that facilitate dealing with educational content. Therefore, the necessary investments must be monitored in order to develop the infrastructure, the skills and the individual initiative projects.

- The availability of a specialized and elaborated crew to set the E. learning policies in the institution considering this institution's policy and objectives.
- Both the teacher and the learner must have the necessary competence to deal with electronic devices and internet techniques, because illiteracy is not known today as the person's ignorance of reading and writing rules, but it means the impossibility of dealing with technological tools (Meriki, 2019, p44).
- Training the student to transfer from the mere reception tool to an effective element while conversing with the scientific material and forming his personality through showing his opinion and dialoguing with others, in addition to the capacity of searching and writing reports and memoranda, as well as participating in searching activities (Amel Hocine, 2013, p75).
- The teaching body members must keep up with scientific and technical changes concerning performance in the university, in addition to employing modern tools in the teaching process and designing the digital program so that it aligns with the learners' characteristics and the available capabilities (Meriki, 2019, p40).
- The adopted methodology in teaching must be revised and developed, and its scientific content must be altered so that it suits the scientific developments.

## **2. The E. learning employment challenges:**

There are many technical, administrative and human challenges and obstacles that face the employment and propagation of E. learning in universities. These challenges can be summarized in the following points:

- The lack of information security, which is one of the most important obstacles that obstruct the educational process for fear of hacking the information system and losing privacy, therefore, the educational programs online must be preserved from being lost or stolen or copied to other websites, or modified or attributed to persons other than the original authors (Talaat, 2019, p57).
- Hacking the educational programs due to the non-application of intellectual property rights while elaborating learning programs. Therefore, the E. learning intellectual property rights must

be reliable either during publication or during writing educational materials through E. learning websites (Abdessadek, 2011, p17).

- The digital structure fragility in some areas that suffer from the lack of capacities concerning providing internet web services, and even when these services exist, they are exposed to frequent interruptions because of the lack of a high streaming speed, which is considered as the weakest in the world according to the last statistics (Zeid, 2012, p3).
- The limited capacity of educational institutions concerning creating wide networks and providing a huge quantity of devices and materials, while ensuring their update in view of the technologies' continuous and renewed developments.
- The high cost of digital learning as well as intelligent environments' programs and techniques, which necessarily leads to a high ratio of learning discontinuation, and even when those devices are available, they require continuous maintenance and renewing, which is not available to everyone ( Talaat, 2019, p52).
- The need for human resources that are competent and trained in the field of E. learning quality.
- The incapacity of some students to afford the necessary electronic devices for E. learning, such as computers and internet network, for material reasons.
- The continuous need for training and supporting learners and administrators in all levels according to the techniques renewing, because the lack of teachers training concerning E. learning is considered as the principal reason that keeps them away from using this type of learning, which is due to the lack of training courses that help dealing with electronic devices concerning their operation and maintenance method (Al-Aidy & Boufateh, 2018, p667)
- The lack of collaboration between universities concerning exchanging experiences to develop E. learning.
- The universities' websites weakness and the problem of not updating them permanently and not organizing them due to the lack of specialized persons in this field (Filaly & Bouaroudje, 2019, p66).

- The E. learning high costs that include: the cost of devices, equipment and programs as well as the cost of electronic communications' execution between educational institutions, experts and students in their learning spaces, in addition to the fact that training the teaching body members to use computer and internet needs a huge cost (Mechri, 2014, p140).
- The weakness of strategic planning and the lack of clear and defined policies in the field of E. learning.

Although there are many challenges, there is still some hope that lies in benefiting from E. learning so that the university reaches its purposes to develop its community.

### **3. The Algerian experience in the field of E. learning**

The E. learning topic in the Algerian university is considered as one of the topics that have a great importance, especially in the present time, not only because it represents a modern learning pattern, but also because it is a new project in Algeria that inters within the electronic government project. Thence, we find that the ministry of higher education and scientific research is heading toward the Algerian university digitization, therefore, when we refer to the executive decree n° 13-77 dated on January 30<sup>th</sup>, 2013 that defines the minister of higher education and scientific research permissions, we find that it states in its third article that: "He is charged, in the limit of his permissions, to study the necessary measures for the organization of the different higher education phases and developing them, especially watching the development of the information and communication technologies' use concerning management and education and promoting these technologies. In this regard, the ministry of higher education and scientific research issued the decision n° 201 on April 09<sup>th</sup>, 2011 that includes the creation of the national E. learning committee (decision, 2011). Furthermore, E. learning represents one of the Algerian nation priorities through releasing the E. learning national project in the university. This project concerns merging new training and learning methods as it aims to achieve objectives according to three steps:

- The first step concerns using technology, such as visual lectures, while improving the training and learning level on a short term.

- The second step depends on modern pedagogical technologies, which means E. learning, in order to ensure quality in a medium term.
- The third step is the one of integration through which distance-learning is approved and published (Al-Wafi& Djeddi, 2018, p67).

The adoption of E. learning style by the Algerian university is capable of providing new communication channels with the higher education services receiver, represented especially in the student who will be capable of ensuring communication with teachers and continuous learning about lectures, which can rise the dynamism of promoting the relationship between teachers and students according to what serves the university's purposes.

Boumerdes University has adopted E. learning via E. learning platforms "Moodle", which are considered as distance training platforms based on web technology that represents the spaces where works are exposed in addition to all the activities and programs that concern E. learning. In application of this, the university has opened, through this platform, an account for teachers in the website page to allow them to upload lessons so that the students will be capable of learning about them. Besides, a teachers and students' guide was set showing the E. learning platform employment mechanism as well as the page classification according to each specialty (Titila and Boualia, 2018, p65).

The "Moodle" platform is considered as one of the best free and open source systems of education management, which means that the software source instructions and the platform interface design can be modified. Furthermore, E. learning in the "Moodle" learning platform is characterized with flexibility, which means training learners in isolation from time and space, in addition to offering the asynchronous learning in particular, which does not require from learners to be in front of screens at the same time, reducing the problem of some students' absence. The "Moodle" environment also facilitates the evaluation process through different patterns of questions, and it permits to download and upload homework in the form of different types of documents and files.

### **Conclusion:**

The process of adopting E. learning requires a huge deal of work and effort; therefore, we have to benefit from the experiences of the scientifically developed nations that preceded us in this field. Besides, the E. learning application requires providing the necessary support, either through material resources, or legislative texts that ensure the best and continuous exploitation of this strategic project as well as opening the investment and competition field for public and private companies in order to provide the best quality of communication and information networks over the whole national territory.

In addition to that, and after applying E. learning in universities, traditional universities may disappear and be replaced with a set of institutions that offer programs via communication channels and systems far from traditional study amphitheatres. However, and although the E. learning importance, it cannot be an alternative of traditional learning, but it can complement it and complete its role, so, we can use the tools it offers to improve the learning process in the traditional environment.

### **Recommendations:**

- Securing the E. learning requirements, either equipment or software or rehabilitation or training, in addition to services and maintenance.
- Speeding up the E. learning propagation in the higher education institutions and rising its efficiency.
- Creating an independent administration specialized in E. learning in universities and in the ministry of higher education in order to follow its application process.
- Activating the legal responsibility to protect the intellectual property rights in order to encourage the teachers to publish their lectures on the E. learning platforms.
- Taking the necessary preventive measures in order to avoid possible technical errors in the internet network.

- Organizing training courses for teachers and students to help them use the information and communication technology tools as well as educational software.
- Encouraging the private sector to invest in creating national institutions for computers industry and necessary programs production, in addition to making partnerships with foreign companies in order to benefit from the international technology.

### **References**

- Abdessadek, M.S. (2011). Intellectual property rights in the E. learning field. The second international conference of E. learning and distance learning. Riyadh.
- Ahmed, S. (2004). Learning technology and E. learning. Arrochd library. Riyadh.
- Amel Hocine, A. (1013). E. learning quality in the higher education institutions. Al-Hikma magazine for educational and psychological studies. Volume 1 (1). Egypt.
- Al-Khafadjy, S. (2012). Open learning and distance learning. First edition. Al-Acadimiyoune editions. Jordan.
- Al-Halfaoui, W. S. (2006). The learning technology updates in the information era, first edition, Al-Fikr editions, Jordan.
- Al-Wafi, T & Djeddi, T. (2018). The University distance E. learning in Algeria. Reality and development perspectives. The learning quality Arabic magazine. Volume 5. Issue 1.
- Al-Aidy, A & Boufateh M. (2018). E. learning backgrounds in higher education (Laghouat University as a model) the researcher in human sciences and sociology magazine. Issue 33.
- Ayadhe, A & Aissani, A. (2018). Arabic language didactique perspectives in the Algerian higher education according to merged learning from the learning technology view. Athakira magazine. Volume 6 (2).
- Charmane, A. A. (2013). The modern learning technology and developing methodologies. "Wael" editions. First edition. Jordan.
- Chikha, L. (2017). A standard study of the higher education outputs' effects on rising industry, pharmaceuticals' industry as a model. The economic researcher magazine. Issue 4.

- Filali, G & Bouaroudje, L. (2019). The Algerian university and the distance E. learning experience (Constantine 2 University as a model)". The Arabic magazine for information and child culture. Jordan. Issue 2,
- Ghazi, F. (2012). E. learning role in realizing higher education quality", Second international forum about securing quality in higher education, Skikda University.
- Hawamda, M. F. (2011). E. learning usage obstacles from the teaching body member's point of view at Al-Balqa Applied University. Damascus University magazine. Volume 27, (1).
- Hatim, A & Ikhlassse, Z. (2008). Information technology and how to insert it in public learning schools. Educational studies magazine. First issue.
- Khamra, T & Bouamama, K. (2009). E. learning in the higher education sector. Motives and obstacles. Human resources and sociology magazine. A special issue: computer and information technology in higher education.
- Mechri, S. (2014). Critical thinking and its importance in the E. learning frame. Human sciences and sociology magazine. Issue 16.
- Meriki, B. (2019). E. learning in the Algerian university between reality and hopes. The Arabic magazine of information and child culture. Volume 5.
- Moulay,Z & Hamida, A. (2015). E. learning", Law and human sciences magazine, Zian Achor Djelfa University, Algeria, issue 22.
- Mouna Hadi, S. (2013). Study and analysis of E. learning techniques. The teacher magazine. Baghdad. Issue 205, first volume.
- Radjia, B. A. (2011). E. learning from university teachers' point of view. An exploratory study in Batna University. The National forum of computer and information technology in higher education. Kasdi Merbah University. Ouargla.
- Radjaa Zoheir, A. (2012). E. learning reality and challenges in the Open Jerusalem experience in Hebron educational area. Educational and psychological sciences magazine. Bahrain. Volume 13 (1).



- Talaat Yaddak, M. (2019). E. learning contribution in securing quality inside law faculties”, legal and economic researches magazine. Volume 2 (2).
- Decision n° 201 dated on April 9. 2011. Including the creation of the E. learning national committee.
- Titila, S & Boualia, S. (2018). Designing the E. learning reform styles in the Algerian university: the application reality and the usage characteristics – the Moodle E. learning platform in Setif University as a model –. Sociology magazine. Laghouat University. Volume 7 (2).
- Zeid, A. (2012). The application degree of E. learning quality standards in Hael University from the teaching body member’s point of view in the scope of some variables. Master thesis. Learning techniques specialty. Education faculty. Yarmouk University. Oman. Jordan.