



## Effects of e-learning on master EFL students' academic achievement: A case study

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### ABSTRACT

The rationale of the present paper is to investigate the effectiveness of e-learning on the students' academic achievement in English as a foreign language. A case study has been conducted at department of letters and English language by taking into consideration the students from two different master sections at Ain-Temouchent University namely, 'didactics and applied linguistics', and 'literature and civilization'. Through the use of an online questionnaire, the results revealed that the majority of the respondents under investigation approve the idea that e-learning has a positive impact on the academic performance and success of the learners, and that e-learning can be a complementary aspect to classroom learning for the best possible outcomes as regards academic achievement.

**Keywords:** academic achievement, e-learning, English as a foreign language, effects, master students

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### INTRODUCTION

E-learning is a concept that stands for 'electronic learning', which, if we look closely into, is the use of electronic technology in learning/teaching process. This method of learning is widely used in every developed and developing country for the sake of increasing the quality of education given to learners. Technology in education comes in all types and forms thanks to the enormous advantages it offers.

In Algeria as in many other developing countries, the Ministry of Higher Education has, currently, started to seek a proper incorporation of e-learning in learning syllabi, in general, and in foreign language teaching, in particular, to adapt with the wave of globalization of e-learning from other universities belonging to different developed nations. This, in fact, may not be sufficient to the average student especially the one studying at the University of Ain-Temouchent.

Therefore, this paper aims to analyze and investigate the effectiveness of e-learning as regards the academic achievement of English foreign language (EFL) master two students from two discrepant sections at the department of English affiliated to the faculty of languages and social sciences in the University of Ain-Temouchent. To fulfill the study objectives, an online questionnaire has been administered to the participants from two different master's sections: *didactics and applied linguistics* and *literature and civilization*.

This study seeks to provide answers to the following research questions:

1. In what ways can e-learning be effective when it comes to academic achievement and success?
2. How is it possible for e-learning to be complementary to classroom and traditional learning?

To connect the dots, the following hypotheses are proposed:

1. E-learning is effective when it comes to the student's academic achievement and greatly contributes in his/her success.
2. E-learning can be used as a complementary tool in addition to classroom/traditional learning to enhance the learners' academic achievement.

### Definition of E-Learning

In order to gain a clear understanding of what e-learning is, It is worth-considering different definitions from different views of scholars bearing in mind that the letter 'e' in e-learning stands for the word 'electronic' and its meaning is not changeable or modifiable. E-learning is a broad combination of processes, content, and infrastructure to use computers and networks to scale and/or improve one or more significant parts of a learning value chain, including management and delivery (Aldrich, 2004). Perhaps a more inclusive approach is best in defining e-learning, as suggested by Sangrà et al. (2012). In their research of the various definitions of e-learning, Sangrà et al. (2012) suggest the following wording resulting from their analysis:

E-learning is an approach to teaching and learning, representing all or part of the educational model applied, that is based on the use of electronic media and devices as tools for

improving access to training, communication and interaction and that facilitates the adoption of new ways of understanding developing learning [...] e-learning is part of the new dynamic that characterizes educational systems at the start of the 21<sup>st</sup> century, resulting from the merge of different disciplines, such as computer science, communication technology, and pedagogy [...] the concept of e-learning can be expected to continue to evolve for a long time (pp. 152-154).

E-learning is used throughout this paper in the general meaning of education delivered via technological means, which includes digital platforms, but most importantly, though not exclusively, the Internet, and *distance learning* in the sense of any education occurring at a distance.

### Impact of COVID-19 on Learning/Teaching Process

In the late months of 2019 and the beginning of 2020, a new highly infective virus to human beings has emerged “the virus can spread from an infected person’s mouth or nose in small liquid particles when they cough, sneeze, speak, sing or breathe” (World Health Organization [WHO], 2019). Education has been hit particularly hard during the COVID-19 pandemic as many schools and educational institutions from around the world including Algeria were forced to cease using traditional face-to-face educational method and to migrate towards a newly developed method called e-learning.

This approach had an impact on both students and instructors who were forced to modify their approaches and methods, which resulted in making different strategies. On the one hand, students were faced with independency. Independent learning is defined as a process and a philosophy of education, where learners gain knowledge through their efforts while developing the ability to inquire and evaluate (Bonham, 1992). On the other hand, instructors used virtual meetings by means of computer/phone apps such as Google Classroom, Google Meet, Moodle, Skype, and Zoom.

Comparing e-learning with traditional learning, some researchers such as Wagner et al. (2008) found that e-learning is more effective than traditional learning. However, some have turned it down because of reduced social interaction, high investment costs, and technical problems with communications and computer technology. One of the most popular and traditional methods of delivering knowledge is through this method in face-to-face learning.

### Adaptation of E-Learning by Algerian Universities

Algerian universities have gone through a reform of bringing the composition of degrees into accordance with international standard called LMD (licence, master, and doctorat), which translates in English to bachelor, master, and PhD. The information and communications technology (ICT) has become a hope for university institutions that started facing many obstacles and problems including the increasing number of students, the lack of framed structures and pedagogical buildings, etc. This hope came under the emergence of modern technology as an assisting solution to face these obstacles.

To discuss education in any form and in any country, its background needs to be analyzed. The government of Algeria spent huge efforts to increase the efficiency of its educational system standards and targeted clear main objectives that were mentioned in a report published by the Ministry of Communication and the Ministry of Higher Education within the “priorities and planning report for

2007.” The main strategic objective that was mentioned is the establishment of a system of distance of education as a support for modern civilizational formation and to join Algeria with global learning standards. It was a clear message of the Ministry of Higher Education that higher education institutions must adapt a clear strategy and general policy to adopt this modern educational system into universities and to aware students of this evolving into a supportive environment and policy on the national level to integrate ICT.

Algeria has started its own e-learning system by doing a collaboration with the Ministry of Communication and the Ministry of Higher Education with, not only international ICT developers such as the American giants “Microsoft” and “Thomson”, but also Chinese technology developers such as “Huawei” and “ZTE”, and local mobile operators in order to develop an ICT infrastructure in Algeria through opening the Algerian market for these developers and operators.

This resulted in a major increase in communication and the Internet quality in the majority of the country throughout the years. For example, according to Guemide and Benachaiba (2012), an astonishing increase of operator’s subscribers reaching 87.0% at the end of 2012 thanks to the third and fourth generation of wireless mobile telecommunications technology also referred to as “3G” and “4GLTE”, but also to the modernization of the Internet connectivity through the upgrade of asymmetric digital subscriber line “ADSL” cables to a more powerful cables referred to optic fiber cables that are capable of delivering a remarkable higher amount of the Internet bytes (Guemide & Benachaiba, 2012).

Another factor to ensure the success of e-learning or ICT in Algerian universities is the development and improvement of their services towards the student by introducing new technological means, which include not only computers, printers, CDs, but also, recently, digital ones such as websites of courses for different study fields—like the case of EFL students of Ain-Temouchent University—through the means of “Moodle.” This latter is a platform for online learning that enables teachers and online developers to create online courses, add assignments, and keep an eye on their students’ progress. It also allows teachers to communicate with their students and encourage communication between them in forums and discussions. Contents such as Microsoft Word Docs and PowerPoint Slides are included a lot in Moodle software (Costa et al., 2012, p. 4).

### E-Learning & Academic Achievement

The impact of e learning is increasingly dominating the current educational system as the impact of technology, continuously, dominates our day-to-day activities worldwide (Bass, 2006). Other studies from different scholars such as Cardak and Selvi (2016) opine that there are some aspects that have a significant relationship with implementing e-learning towards academic performance among students. The major goal of e-learning is to improve students’ academic achievement while also increasing accessibility to education and lowering expenses and time. It helps in enabling access to efficient teaching and learning; thus, improving efficiency for students who tend to have a difficult situation when it comes to the perfect time for studying, i.e., time flexibility (Abdel & Shalash, 2020).

This mode of instruction allows learners from several places to attend the same classes practically simultaneously. In addition, it motivates students and improves their academic performance by encouraging self-learning and providing a sense of ease in use and

**Table 1.** Students' field of study

Section of study	Didactics & applied linguistics	Literature & civilization
Number of students (n)	30	10
Percentage (%)	75.0	25.0

**Table 2.** Students' generation

Generation	Generation Z (Gen Z)	Millennials (Gen Y)
Number of students (n)	36	4
Percentage (%)	90.0	10.0

**Table 3.** Students' level in English

Proficiency level in English	Mastery (C2)	Advanced (C1)	Intermediate (B2)
Number of students (n)	8	27	3
Percentage (%)	73.0	20.0	8.0

interaction, allowing for more flexibility in learning time, monitoring academic performance and giving instruction in online courses are important issues for educators. Because of the spatial, temporal, and interactive distance, this mode of education necessitates higher commitment, accountability, and self-regulation of learning in order to achieve educational goals. Educators want devices to systematically monitor and evaluate students' academic achievement in this regard.

## METHODOLOGY

### Description of Target Situation

This case study was carried out in the Department of Letters and English Language at Ain-Temouchent University. It is worth-mentioning that this study does not involve all the students of English, but rather those of master two sections of 'didactics and applied linguistics' and 'literature and civilization'.

### Students' Profile

The sample population is a random sampling, which includes 30 students of the didactics and applied linguistics master section and 10 students from literature and civilization. Most students share the common fact that they are part of Generation Z, which means that they are born between the year of 1994 and 2000 and use the information and communications technologies very often.

### Research Instruments

An online questionnaire was administered to the selected participants and to collect their different viewpoints about the incorporation of e-learning in the teaching/learning process along with its effectiveness in promoting academic performance. To this end, two types of questions were used: closed questions, where the responses of the respondents are limited to a set of options. However, open questions entail questions, where the answer is completely unstructured, and the respondent has the opportunity to express his/her ideas accordingly. The students' questionnaire is composed of seven questions, which aim at gathering information about the incorporation of electronic learning in master two EFL classrooms, and its effectiveness in enhancing EFL students' academic proficiency.

The questionnaire was sent to the respondents through their e-mail addresses and Facebook accounts to gather as many data as possible; this has proven to be a very effective way to reach the students. Additionally, a mixed-methods approach based on both quantitative and qualitative

approaches to analyze the gathered data was used. The anonymity of the participants has been kept to avoid any bias and prejudice.

## ANALYSIS OF STUDENTS' ONLINE QUESTIONNAIRE

This section is devoted to the analysis of the results obtained from the online questionnaire administered to the target population.

### Question 1. In What Section Do You Study?

According to **Table 1**, the majority of the respondents (75.0%) are affiliated to didactics and applied linguistics master two section, while a minority rating (25.0%) are affiliated to literature and civilization.

### Question 2. From What Generation Are You?

**Table 2** shows that the great majority of EFL participants who study at the university of Ain-Temouchent are born between 1994 and 2002, which means that they are part of Generation Z, while the remaining 10.0% of the students are from an older generation (Generation Y/Millennials).

### Question 3. How Do You Evaluate Your Level in English?

According to **Table 3**, more than 70.0% (72.5%) of the students have an advanced level in EFL, which means that they can produce clear, detailed text and interact with a degree of fluency and spontaneity, while 20.0% of the participants have a good mastery level in EFL, they can understand and express everything with ease, and differentiate finer shades of meaning. The remaining (7.5%) consider themselves to have an intermediate level in English proficiency.

### Question 4. Do You Learn More Easily Through E-Learning?

The results obtained from this question show that the majority of the respondents (87.5%) learn more easily through electronic learning and feel comfortable; they also experience great easiness and comfort while using e-learning technologies, while a very small minority (5.0%) does not experience the same easiness that the majority has (**Table 4**).

### Question 5. If Yes, How?

The respondents were given the freedom to select more than one answer; the responses were somehow balanced (**Table 5**). More than 69.0% of the students said that they prefer e-learning as it gives them complete control over time and convenience for learning, but also for the freedom on picking the right courses from the Internet. More than

**Table 4.** Easiness using e-learning for studying EFL

Difficulty in learning EFL through e-learning	Yes	No
Number of students (n)	35	5
Percentage (%)	87.5	12.5

**Table 5.** Advantages of using e-learning for studying EFL

Advantage of using e-learning	Score	Percentage (%)
Gives complete control over time, pace, & convenience for learning	25	69.4
Freedom on picking right courses from the Internet	25	69.4
Cost-effectiveness	12	33.3
Can communicate with my teacher at anytime	21	58.3

**Table 6.** Difficulty in using e-learning for studying EFL

Difficulties using e-learning	Score	Percentage (%)
Bad internet access at home	26	65.0
Unable to learn individually	8	20.0
I do not have enough computer literacy skills	3	7.5
I do not encounter any issues	15	37.5

**Table 7.** Preferred method of studying

Answer	Yes	No
Number of students (n)	28	12
Percentage (%)	70.0	30.0

58.0% of the participants (58.3%) believe that e-learning is preferable for the reason that it gives them the ability to communicate with their teacher at any time, while 33.3% of students say that it is more cost-effective and eco-friendlier than traditional learning.

#### Question 6. What Type of Laws Do You Come Across While Using E-Learning?

Here again, the respondents were provided the freedom to choose more than one answer to this question (Table 6). 65% of the participants claimed to encounter a bad internet access at home, which stutters their e-learning process; 20.0% of them said that they are not able to learn individually or independently from the traditional pedagogical environment; 7.5% of students reported that they do not have enough computer literacy skills acquired for using e-learning, while more than 30.0% (37.5%) of the participants opined that they do not encounter any sort of issue when it comes to using e-learning.

#### Question 7. Do You Find E-Learning Better Than Traditional Learning? Justify Your Answer

The majority of the participants (70.0%) who answered this question agreed on finding e-learning better than traditional learning when it comes to effectiveness in academic performance while the smaller minority (30.0%) believed that e-learning is not better than traditional or face to face learning (Table 7).

Look at these statements provided by some of the respondents:

Student1: "It's easier for me to use e learning because I can learn EFL whenever I want wherever I want, and this helps me a lot as an individual learner."

This student prefers e-learning over traditional methods of learning due to the fact that the latter gives him the freedom in choosing time, pace and convenience for learning, which is one of the major advantages of electronic learning.

Student2: "Through e-learning, I get access to any kind of lesson I want; I can choose one of the best teachers in the world to learn from. In addition, I can listen to native speakers of different English language accents regardless of learning any time and place that suits me."

This student prefers e-learning over traditional methods of learning due to the freedom that it offers when it comes to picking the right courses from the Internet.

Student 3: "I'm used to computers and digital tools, which makes learning easier for me."

This participant relies on having enough computer literacy skills; he finds learning EFL through electronic learning and ICT to be easier than traditional methods of learning.

Student 4: This particular participant said that

"as part of the new generation, I find that all the matters related to my subjects of study can be researched on the Internet, which I find it much easier than searching through physical libraries or archives."

Student 5: "I'm able to concentrate better and harder on my learning through traditional classroom learning because I'm a mom and there is less distraction than when I'm at home."

This student finds learning through online difficult due to the reason that she cannot concentrate properly at home; thus, she prefers traditional face to face learning inside the classroom.

Student 6: "It is a complementary tool to traditional education; e learning could be a part of it."

This participant believes that traditional learning would be more effective if e-learning is involved in it.

## DISCUSSION

Based on the results obtained for this study, the first interpretation that can be revealed from the participants' responses concerning the effectiveness of e-learning when it comes to academic performance, is



a sort of a positive influence or effect on the learner. Indeed, the majority of the respondents, involved within this investigation, agreed that electronic learning and ICT in general have a significant impact on the learners' abilities to acquire EFL, and this is consistent with Wagner et al.'s (2008) study, where they found that e-learning is more effective than traditional learning. Each participant has his/her preferences when it comes to electronic learning as it gives many advantages that are suitable for their different and unique needs like some students find it easier to study at home while others are more familiar with computer literacy skills, which makes learning for them much easier.

The results also revealed that although the advantages of the electronic learning method are vast and many, some students may encounter certain difficulties while using it; the transition to e-learning might not be well-received and adopted from the concerned participants. For instance, one of the encountered issues that the students have faced are the immaturity of electronic technologies and the Internet in Algeria (bad internet connection) compared to more developed countries. This is mainly due to the fact that many Dairas, Wilayas and remote villages suffer from inequality, for they lack a viable and stable internet network compared to other more populated places. These results contradict with Abdel and Shalash (2020) who claimed that the major goal of e-learning is to improve students' academic achievement while also increasing accessibility to education and lowering expenses and time.

The collected data, from the students' questionnaire confirm the hypotheses stated for this study entailing that e-learning may be effective when it comes to academic achievement and success, and it can be complementary to traditional learning. Students' responses revealed that e-learning is suitable for most of them to develop and acquire knowledge more easily due to several reasons. It has also been noticed that the majority of the participants (32 out of 40) have found an easy adaptation to e-learning, which renders EFL learning straightforward through electronic learning and information and communications technologies. This can be due to enabling access to efficient teaching and learning; thus, improving efficiency for students who tend to have a difficult situation when it comes to the perfect time for studying, i.e., time flexibility (Abdel & Shalash, 2020).

## CONCLUSIONS & LIMITATIONS

The present study has been concerned with the effects of e-learning on academic performance of EFL master two students from two distinct sections affiliated to the university of Ain-Temouchent. Based on the hypotheses that e-learning has a significant impact in improving students' academic performance, and that E-learning can be complementary to classroom learning, a case study has been used to verify whether e-learning has a positive effect on the students' academic proficiency or not.

The results obtained have shown that most students experienced a positive occurrence while using it on their daily pedagogical tasks away from physical learning institutions such as the university. Almost all the students who participated in this study have taken advantage of one or many features that e-learning offers, which other teaching and learning methods lack. This includes the freedom of picking courses from the Internet at anytime and anywhere, where the internet connection is available, the complete control over convenience for learning or even the ability to communicate with the teacher at any time through the use

of communicational websites or applications. The results obtained for this study have resulted in the confirmation that e-learning has, indeed, an impact on the academic performance of the students. However, due to the limitations that the Internet suffers from in general in some rural areas and villages in Algeria, which entail the lack of a stable and complete the Internet infrastructure and of which almost 80.0% of the participants suffer from, it has been deduced that even though e-learning has a positive impact on the academic achievement of the master two students in one way or another, it is a far less effective experience in reality than its promoting and giant potential.

Briefly, although e-learning is in its baby phase and is still in the beginning of its evolution towards a prosperous future in Algeria, it cannot be ignored or just be left for the future students. Its implication in general pedagogical activities, needs to be provided even more than what it is in the year of 2023 to have an effective development and to improve the academic achievement of the students through the use of both e-learning materials and traditional learning materials to obtain a noticeable peak in academic performance from university students.

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**Data availability:** Data generated or analyzed during this study are available from the author on request.

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