

E-Learning During The Coronavirus Pandemic From A University Professor's Perspective: A Field Study On A Sample Of Professors In Ouargla City

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Abstract:

The study aimed to uncover the attitudes of university professors towards the use of e-learning during the COVID-19 pandemic at the University of Ouargla. The study sample consisted of 116 professors who were engaged in teaching during the spread of the coronavirus. The researchers relied on a questionnaire to measure the attitudes of university professors towards the use of e-learning during the COVID-19 pandemic at the University of Ouargla. The results indicated that the nature of the attitudes of university professors towards the use of e-learning during the COVID-19 pandemic at the University of Ouargla was positive.

Keywords: attitudes of university professors, e-learning, COVID-19 pandemic.

1- Introduction

E-learning is a modern educational model and form of higher education that utilizes electronic media to deliver lectures and applications in the learning process. It is not limited to a specific time or place and serves as a means to support the educational process. From the traditional instructional approach to the creative approach, it leads to the development of skills, independent learning, solving educational problems, and equipping both professors and students with skills to deal with modern technology and technological tools, as well as interacting with others actively.

Supporting distance education in Algerian universities through various electronic media and digital platforms has become an inevitable reality, advocated by directives and recommendations from the highest authorities in the country. Additionally, e-learning is considered one of the most important modern methods in the field of education, as it relies on the use of modern communication mechanisms such as computers, networks, media, research mechanisms, and electronic libraries, in addition to remote or

classroom-based internet portals. It is an education that relies on the use of various technologies to deliver information to learners in the shortest time, with minimal effort and maximum benefit.

Most education experts expect this type of education to become the dominant method in education in the near future, due to its unique characteristics and advantages. Higher education in Algeria is still in its early stages, which urges us to understand the prevailing trends among professors. And higher education is heading towards that direction. Since the existence of humankind on Earth, human life has been plagued by numerous obstacles, events, and phenomena that hinder human performance and achievements, such as what the world is currently witnessing, namely the spread of the COVID-19 disease and the many changes it brings in various aspects (economic, social, cultural, political), and the education system, etc., due to its profound impact on physical and mental health. This makes it strive with all its strength in this context for knowledge and ideas to interpret it and how to deal with it.

In this regard, the impact on the process of education and learning, which is considered the fundamental basis for development and progress in all areas of life, is significant. As a result, governments around the world have been forced to close educational institutions and have started to consider alternative education. In order to keep up with this new stage, the activation of e-learning has become an important requirement for the world. In our current era and situation, by focusing on distance learning and working on its improvement, development, adaptation, and integration with modern communication networks, we aim to prepare and equip learners for the two poles of the higher education process and strive to enhance their capabilities and bridge the material differences among learner groups. This includes the Internet, its devices, and everything related to digital education. We are diligently working to solve these problems as quickly as possible to achieve educational equality.

The sudden shift to remote learning in unexpected circumstances has caused shock and stress among professors, students, and educational stakeholders, both personally and professionally. It requires intensified efforts, in addition to the psychological instability resulting from the pandemic outbreak. There are several exceptional obstacles for professors and students, such as the lack of suitable time, weakened physical structure, unsuitability of digital content, and lack of material and moral preparedness (Khalif, 2020).

Based on this unforeseen situation, which caught higher education administrators off guard and hindered their preparedness and development of appropriate plans for this stage, it is worth mentioning that training on the use of e-learning, such as designing lessons on Moodle, for example, was initially limited to new professors before their tenure. Researchers chose this study that focused on "The Use of E-Learning in the Face of the COVID-19 Pandemic: Perspectives of University Professors."

2- Problematic of the Study:

In recent times, the world has witnessed an information revolution where communication and

media technologies have played a crucial role in these transformations and changes, impacting various fields, particularly the education and scientific research sector. The emergence of distance learning and virtual universities reflects the utilization of technology in the educational domain, with the concept of virtual universities and e-learning primarily focusing on employing advanced technological means in the educational process (As'aidani Salami, PhD).

Among the most significant areas that have invested in modern technologies is the field of education, where they have been utilized within classrooms, schools, universities, and even beyond. An integrated education system has been established, relying on these technologies, known as educational technology. This has revolutionized traditional concepts used in education and introduced new methods and objectives in pedagogy.

With this expansion, several terms have emerged that link education to network usage, such as e-learning, online education, or network-based teaching. In other writings, the concept of virtuality is used. Most international universities are moving towards adopting this type of education, recognizing its benefits, both economically through the revenue generated for universities, and academically by providing educational opportunities for individuals who may find it difficult to participate in traditional education systems. Additionally, it contributes to solving many challenges faced by higher education (Faiza Al-Rubaie, PhD).

E-learning has become a fundamental issue that occupies educators in general, especially those interested in the field of educational technology. This has led to numerous studies and research aimed at exploring the feasibility of this form of education. Based on its significant importance, nations have raced to develop local and national formulations that stem from the learner's environment, align with their concepts, and values.

Several researchers, such as Lall and Elgandy (2010), Kinsara (2007), and Ad-Dael (2007), have emphasized the importance of having the

capabilities and skills necessary for implementing e-learning among both faculty members and students. Algeria is also striving to establish a project known as the Academic and Research Network, which is a network exclusive to universities and research centers across the country. The goal of this project is to enhance communication services and information exchange among these institutions and research centers.

Ibrahim Bakhti mentioned in his article titled "Virtual Education and Its Technologies" that Algeria's experience in utilizing distance virtual education technology is still in its infancy and modest (Faiza Al-Rubaie, PhD).

However, with the emergence of the global pandemic crisis, represented by the COVID-19 pandemic, governments around the world were forced to close educational institutions. The Algerian university found itself officially compelled to activate e-learning. Sahu (2020) sought to understand the impact of university closures due to the COVID-19 virus on education and the mental health of students and faculty. The novel coronavirus (COVID-19) originated in Wuhan, China, and quickly spread worldwide. Consequently, many universities postponed or canceled all academic activities and implemented rigorous measures to protect students and staff from severe infection. Faculty members transitioned to the online education system, which has become a vital necessity in our present time and current circumstances. Researchers have recommended conducting training courses in the field of e-learning for both teachers and students to encourage their utilization of online education. Since the onset of the pandemic, professors have been compelled to deliver lectures through online platforms and use the internet, smartphones, and computers for remote communication with students. The University of Ouargla is one of the universities that suddenly found itself obligated to transition to e-learning and employ communication methods that were not previously adopted by some. However, some professors have had negative attitudes and doubts about the outcomes of this type of education.

In the Arab countries, the methods of distance learning vary and differ according to the capabilities of each country individually. Within each country, there are national and regional digital gaps and variations in technological infrastructure readiness, due to the lack of resources and necessary equipment related to distance education. Moreover, there is a lack of previous experiences to measure the extent of success in implementing these methods, as a precautionary measure to combat the coronavirus. In this stage, the continuity of education has become a greater challenge for students, teachers, and educational institutions.

Therefore, many researchers have sought to investigate the effectiveness of distance education in Algeria. One notable study is conducted by researcher Halima Zahi under the title "E-learning in Algerian Universities: Components of Implementation and Challenges of Application - A Field Study at the University of 20 August 1955 in Skikda." The study was conducted between May 2010 and October 2011. The researcher employed a descriptive research methodology and utilized interviews and questionnaires as data collection tools. The research sample consisted of university students and professors. The study aimed to explore the available resources and instructional elements of the educational process, as well as the acceptance of this model by students and professors and the facilitating factors associated with it. Additionally, the study aimed to evaluate the experience and its achievements. The study yielded the following results: E-learning in Algerian universities is one aspect of the information society, defined by specific specifications established by international organizations and specialized bodies. Despite the shortcomings observed on the e-learning platform at the University of 20 August 1955 in Skikda, it provides support to the educational process. The lack of material resources related to the implementation of e-learning was identified as one of the major obstacles. Furthermore, professors face a lack of training in communication and teaching through e-learning platforms (Zahi, 2012).

During the global pandemic, the disruption of education can have long-lasting effects. Researchers and university scholars have confirmed that school students in Australia are experiencing a decline in their academic performance due to the shift to online learning. It is likely that dropout rates will increase worldwide as a result of this massive disruption in accessing education. UNESCO (2020) reported that over 209 million learners in Africa have been affected by the pandemic. Therefore, the African continent is the second most affected after Asia, which includes over 590 million affected children. Several African countries, such as Kenya, Rwanda, South Africa, Senegal, Botswana, and Gambia, have closed all government-controlled schools and universities for a period of 15 days starting from March 19th, in the hope of slowing down the spread of the disease (Abshir, 2020). UNESCO Director-General Audrey Azoulay (2020) stated, "We have never before seen such a disruption in global education." The global academic calendar has been thrown into chaos due to the spread of the coronavirus. Most universities have closed their doors, and students have returned to their homes. Some classes and exams have been cancelled, and research programs have been postponed (Demuyakor, 2020).

In order to complete the academic curriculum for the academic year, which was on the verge of being a blank year, universities rushed to convert the study materials to the online platform, taking into consideration the technology and accessible websites. The global spread of the pandemic has led to a transformation in the higher education sector in affected countries. Initially, much emphasis was placed on transferring content to the online platform, but limited access to technology has impacted the organizational response and students' ability to engage in the online environment (2020, Zhon). Many scholars have questioned whether higher education has been prepared for the upcoming digital era of learning. Private universities have taken significant steps to implement online teaching during the campus closure, such as the British University in Cairo (2020), which offered e-learning using Microsoft Moodle, Class Note, and Microsoft Teams. The

American University in Cairo has also taken several steps to transition to online classrooms, including the use of online teaching tools like Blackboard, Moodle, and email (American University in Cairo, 2020). Some of these tools were known before the crisis, but the crisis expedited plans to use them by major government universities like Cairo University and Alexandria University. Furthermore, Jordanian universities have reported various low-tech solutions to support online instruction, including PowerPoint presentations and free programs like Skype and Google. They can engage their students in available resources, and in the current global crisis, there is an opportunity to exchange resources and expertise to ensure the continuity of our students' education in the face of the pandemic (Crawford, 2020).

These platforms allowed students to access lessons through online platforms with the assistance of professors who volunteered to deliver and explain the lessons to students through electronic clubs provided by the universities on the online platforms of each university.

Despite Arab countries resorting to distance learning during the COVID-19 pandemic, they faced some fluctuations in accepting this type of education. Several studies have been conducted on the effectiveness of distance learning during the COVID-19 crisis. One notable study is a Palestinian study on the effectiveness of e-learning during the COVID-19 crisis. This study aimed to uncover the effectiveness of e-learning in the face of the coronavirus pandemic from the perspective of teachers at Khadouri University in Palestine. The researchers recommended conducting training courses in the field of e-learning for both teachers and students to enhance their use of e-learning as an intermediate solution and to help overcome any obstacles that hinder the effective utilization of the e-learning system. They also emphasized the necessity of balancing face-to-face education with e-learning in higher education institutions in the future (Abu Shakhidem & Awad, 2020).

The problem of this study lies in its focus on measuring the attitudes of university professors at the University of Ouargla towards the use of e-

learning during the COVID-19 pandemic. This, in itself, justifies the conduction of this study due to the following reasons:

1. University professors are the main pillar for delivering information on the e-learning platform.
2. The emergence of the COVID-19 crisis forced schools, universities, and educational institutions to close their doors, limiting their spread. This raised significant concerns among stakeholders, especially professors, who were compelled to deliver lessons through online platforms.
3. All of this prompted educational institutions to transition to e-learning as an alternative that has been widely discussed and debated as a necessary integration into the educational process, particularly after the educational process was affected.
4. Additionally, the information technology revolution has penetrated various aspects of human life.
5. Amid the global COVID-19 crisis, the majority of educational institutions turned towards e-learning as a more suitable alternative to ensure the continuity of the educational process (Al-Khatib, PhD).

Furthermore, more specifically, the problem of the current study is represented by the following research question:

- What are the nature and attitudes of university professors towards the use of e-learning during the COVID-19 pandemic at the University of Ouargla?

3- Study Hypotheses:

Given the disruption caused by the sudden emergence of the COVID-19 pandemic, it is hypothesized that the attitudes of professors towards the use of e-learning, in the teaching method they were forced to adopt to complete the academic year for students, will be negative.

- The nature of the attitudes of university professors towards the use of e-learning during the COVID-19 pandemic is expected to be negative.

4- Study Objectives:

The current study aimed to:

- Explore the nature of the attitudes of university professors towards the use of e-learning during the COVID-19 pandemic.
- Highlight the importance of e-learning and how it supports higher education.
- Shed light on the role played by e-learning in facilitating interactive remote learning between professors and their students, given the current global health circumstances that have forced them to distance themselves from the university and adhere to home quarantine.

5- Study Significance:

The significance of the current study is as follows:

- This study benefits higher education institutions in improving the performance of the e-learning system, developing human resources and material resources, and shaping the direction of selecting teaching methods and future plans for transitioning to e-learning as an alternative to face-to-face learning. The study's findings can also be utilized to measure the nature of the attitudes of university professors towards the use of e-learning in universities.
- The study derives its significance from addressing a contemporary phenomenon, which is the spread of the COVID-19 virus. The results of the study can be valuable in similar circumstances such as wars and crises.

6- Study Limitations:

- Spatial limitation: The study was conducted in the colleges of the University of Kasdi Merbah Ouargla.
- Temporal limitation: The study was carried out within the period from March 18, 2021, to June 10, 2021.
- Human limitation: The target population consists of university professors at Kasdi Merbah Ouargla University.

7- Operational Definitions of Study Variables:

1. Attitudes of university professors towards the use of e-learning: It refers to the stance or response expressed by professors towards e-learning, whether positively or negatively, indicating acceptance or rejection.

2. E-learning during the COVID-19 pandemic: It refers to a teaching method employed by university professors using information technology techniques and computer-based tools, delivered synchronously or asynchronously, to deliver information to learners with minimal effort and time, especially during crises such as the COVID-19 pandemic.

8- Method and Procedures:

- Study Methodology:

The nature of the problem under study determines the research methodology employed in the current study. Since our research aims to understand the attitudes of university professors towards the use of e-learning during the COVID-19 pandemic at the University of Ouargla, the descriptive exploratory methodology was adopted for this study.

- Description of the Survey Sample:

The sample consisted of 116 professors, both male and female, who were randomly selected from various colleges at Kasdi Merbah Ouargla University to conduct the field study. The questionnaire on the attitudes of university professors towards the use of e-learning during the COVID-19 pandemic was then distributed to the survey sample.

The responses from the sample were used to ensure the validity of the questionnaire application and to calculate its reliability and stability.

Description of Data Collection Tool:

The tool used for data collection is a questionnaire titled "Attitudes of University Professors towards the Use of E-learning during the COVID-19 Pandemic."

Questionnaire: Attitudes of University Professors towards the Use of E-learning during the COVID-19 Pandemic.

- Identification of the Desired Capability or Trait to be Measured:

This questionnaire contains a capability called "Attitudes of University Professors towards the Use of E-learning during the COVID-19 Pandemic."

Definition of Capability or Trait Procedurally:

By "attitudes of university professors towards e-learning," we mean the stance or response expressed by a university professor towards e-learning in a positive or negative manner, indicating acceptance or rejection. We further assess this through the participants' responses to the scale items designed by the researchers.

Analysis of Capability or Trait Using Stress Analysis:

Stress analysis allows for accessing relevant studies, research, and literature that have examined the characteristics of university professors' attitudes towards the use of e-learning during the COVID-19 pandemic. These characteristics have been analyzed into items that are common across a substantial number of studies and research. Based on these items, the characteristics of attitudes towards e-learning during the pandemic were determined.

Moreover, there were evaluators who assessed whether these items were suitable or unsuitable for these characteristics. Through stress analysis, the following capability was selected:

- Capability: This encompassed 33 items that distinguish the attitudes of university professors towards the use of e-learning during the COVID-19 pandemic.

- Determining Item Weights:

The results of the questionnaire were presented to a group of experts in the field of capability to provide specific weights for items in determining the relative distribution of the dimension and item weights.

- Items and Units Proposal:

The researchers conducted a survey of relevant studies and research that have addressed the

attitudes of university professors towards the use of e-learning during the COVID-19 pandemic.

The researchers derived the items of this questionnaire from studies and research that focused on revealing the attitudes of university professors. The researchers' criterion for selecting these characteristics was the consensus among studies on the existence or confirmation of the trait. This became evident during the theoretical material collection phase of this study, where it is considered face validity, i.e., the content validity of this questionnaire as confirmed by the experts.

This type of validity relies on the extent to which the questionnaire represents the field it measures, through the analysis of the trait to be measured, revealing its elements.

This questionnaire represents characteristics that have been commonly agreed upon among studies. The number of questionnaire items reached 33 items related to the attitudes of university professors towards the use of e-learning during the COVID-19 pandemic. These characteristics were prepared to differentiate with the response of university professors' knowledge of the extent of the trait in a triadic manner:

Yes: When the trait is present among university professors.

No: When the trait is not present among university professors.

Somewhat: When the responses to the trait are somewhat frequent among university professors.

- Questionnaire Instructions:

Attach the questionnaire with instructions requesting university professors to respond to the items by marking (x) in the appropriate box based on their attitude towards the use of e-learning during the COVID-19 pandemic. Three alternatives are presented: (Yes, No, Somewhat).

Then, the professor is requested to fill in personal information according to:

•Academic Position: (Professor, Lecturer A, Lecturer B, Assistant Professor A, Assistant Professor B)

•Teaching Experience: (Less than 5 years, 10 to 15 years, 15 to 20 years)

- Answer Key:

University professors are requested to answer the 33 questionnaire items related to the attitudes of university professors towards the use of e-learning during the COVID-19 pandemic. Each item is associated with three alternatives for response: Yes/No/Somewhat, with the following scoring:

- ✓ (Yes) has a score of 3.
- ✓ (No) has a score of 2.
- ✓ (Somewhat) has a score of 1.

It should be noted that before starting the correction process, the questionnaire responses should be reviewed. If it is noticed that professors have neglected to answer an item or if there are two answers for one item, the sheet is invalidated.

- Psychometric Properties:

The psychometric properties of the questionnaire were assessed, including discriminant validity and reliability, using Cronbach's alpha equation.

- Scale:

This questionnaire consists of 33 items, and each item has three alternative responses related to the attitudes of university professors towards the use of e-learning during the COVID-19 pandemic. To score these items, weights ranging from 1 to 3 were assigned to the responses (Yes, No, Somewhat).

Psychometric Properties of Data Collection Instruments:

- Psychometric Properties of the Questionnaire:

- Questionnaire Validity: The validity of the questionnaire was established through:

- Expert Validity: A validation form was prepared by the researchers, which served as a model for the attitudes of university professors towards the use of e-learning during the COVID-19 pandemic. It was distributed to five experts in the field of psychology

and educational sciences who teach at the University of Ouargla.

The questionnaire can be considered valid as it was approved by the majority of the experts, and no items were deleted. Only some modifications were made to certain items, such as item number 21, item number 23, and item number 31, which were reformulated. This allows us to use the questionnaire as a data collection tool in the main study.

- **Discriminant Validity:** After applying the test, the discriminant validity was equal to the following value:

The calculated value (t) was 7.886 at a significance level of 0.000, indicating statistical significance. This demonstrates the discriminant ability of the tool, indicating that the tool measures what it was designed for, and thus the tool possesses a certain level of validity.

- **Questionnaire Reliability:**

After applying the Cronbach's alpha coefficient, the reliability coefficient, after correction, was found to be 0.77, which is a high value. This confirms that the tool possesses a certain level of reliability.

- **Primary Study Sample:**

After ensuring the validity and reliability of the questionnaire in the pilot study, the questionnaire was distributed to 116 participants out of a total of 199 copies. The questionnaire measures the attitudes of university professors towards the use of e-learning during the COVID-19 pandemic.

The sample consisted of university professors teaching in 9 faculties. The aim was to measure the attitudes of university professors towards the use of e-learning during the COVID-19 pandemic.

The study relied on 9 faculties at the University of Kasdi Merbah Ouargla, where the sample was selected using a simple random sampling method.

- **Instrument Used:**

Since the study required contacting a large number of research community members, which is essential for the research's completeness (Angers,

2004), a questionnaire was used to measure the attitudes of university professors towards the use of e-learning during the COVID-19 pandemic.

- **Statistical Methods:**

The following statistical methods were used to analyze the data in the current study:

1. Calculation of the arithmetic mean.
2. Calculation of the standard deviation.
3. Calculation of the statistical test "t-test" for a single sample.

To test the hypothesis that the attitudes of university professors towards the use of e-learning during the COVID-19 pandemic are negative, a one-sample t-test was conducted to compare the sample mean with the hypothetical mean of the scale, estimated at 66. The results are presented in the following table:

Table (01): Shows the results obtained from the data of the first hypothesis

Statistical significance	value (v)	Hypothetical average	Deviation Normal	Arithmetic mean	Degree of freedom	Number of sample members
0.000	4.346	66	7.75	69.12	115	116

Based on the previous table, it is evident that the mean score of students on the scale was 69.12, which is a higher average than the hypothetical mean of the scale estimated at 66. By utilizing a one-sample t-test to examine the differences between the means, which amounted to 4.346 with a significance level of 0.000 (lower than 0.05), the statistical function value indicates that the attitudes of university professors towards the use of e-learning during the COVID-19 pandemic are positive.

These positive attitudes towards e-learning can be interpreted as the acceptance of e-learning technology by university professors and their awareness of its significance in educational instruction, particularly during crises such as the COVID-19 pandemic. This is because e-learning surpasses traditional systems and avoids their inherent issues. Additionally, the desire of professors to keep up with scientific and technological advancements is facilitated by e-learning, making the process of training and qualification easier and encouraging professors to embrace it. This highlights the inherent relationship between computers and human life, emphasizing their pervasive nature.

Conclusion:

In conclusion, it can be said that the COVID-19 pandemic has brought about various changes to our lives as we know them. Higher education was one of the sectors greatly affected by the era of information technology, and it is undeniable that its integration into the system is necessary. Considering that the university belongs to the Ministry of Higher Education, it is essential to keep up with the ongoing developments in the era of the COVID-19 outbreak, while being fully aware of the requirements for system development post-COVID-19. This involves adopting a culture of digital education and instilling positive behaviors in the minds of students.

In this regard, the attitudes of university professors at the University of Kasdi Merbah, Biskra, were positive towards the use of e-learning, primarily for the purpose of rescuing their students from a lost academic year, despite the difficulties they faced in utilizing e-learning.

It is crucial for universities and educational institutions to continue embracing technological advancements and integrating them effectively into their systems. This will not only ensure the continuity of education during challenging times but also enhance the overall learning experience for students. By adapting to the digital era and leveraging the potential of e-learning, universities can overcome obstacles and provide quality

education that meets the demands of the modern world.

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