The Impact of Digital education on the Algerian University Student's Acquisition of Scientific Knowledge during COVID 19 Outbreak: History Students division in Eloued University as a sample

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Abstract

In the light of global digital changes, the development of contemporary Information and communication technology (ICT), and in line with the requirements of the knowledge economy, it is indispensable for universities and research centers to adopt the distance e-learning, especially during current global health crisis, caused by the Corona pandemic (Covid-19), which has hampered the traditional education activities at the university level

Accordingly, the University's digital education became more important than before ,as it has developed many appropriate educational and scientific media, improve the Internet service, maintained its various communication networks.

The university of Eloued, in the south-east of Algeria, as one of the leading universities in digitalizing the remote university education through development of its educational system based on the knowledge economy, has opened of many several educational spaces on its official website and social media.

As a member of history department in Eloued university,I will try in this paper to review the development stages of the e-learning process at Eloued University,to know the functionality level of its professors, how students respond to approved e-learning programs,and its impact on their acquisition of scientific knowledge. In addition, to clarify the most important obstacles to improve E-learning in eloued University.

Keywords : Digital education , E-Learning, knowledge economy, Coronavirus, students, professors

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I- Introduction:

Under various political ,economic and social conditions in the world in the last years, which have had serious repercussions in various vital sectors of states, So the imperative was to use digital technology as an urgent solution to overcome and avoid various sudden crises, such as the COVID-19; It has created global disruption, resulting in the closing of many institutions, including the doors of our schools. According to the United Nations report, closures of schools and other learning spaces have impacted 94 per cent of the world's student population (August, 2020)(Benabed & Abdelhadi,2021),Meanwhile the world has witnessed an unprecedented surge in digital services in all fields, especially in the scientific environment.

The countries of the world have paid great attention to the development of the digitization of education and allocated considerable funds to invest in it in light of the explosion of knowledge in various technological media. Algeria is one of the countries that has been quick to pay attention to digital education in various universities through a number of legislation and legal regulations that determine how to use this type of distance education and through various technological media, this type of digital education ensures the improvement and development of student's scientific competencies and the teaching staff, starting in 2012, when the Algerian ministry of higher education and scientific research announced the launch of an (E-masters) experimental programme to be implemented in five Algerian universities, Algeria continues to undertake new reforms in this framework in compliance with international variables in the light of the development of ICT.

Owing to the COVID-19 pandemic, Algeria's former minister of higher education and scientific research, Chems Eddine Chitour, sent a letter dated 29 February 2020 to University presidents to take proactive and precautionary measures in anticipation of any emergency that may cause the suspension of university studies. The University of El-oued is one of the national universities that responded to this message and has been keen to complete various student's lessons for the second semester through various electronic pedagogical media.

The research questions:

In this scientific paper we will address the following issues:

- What are the most important drivers using digital education at the University of Eloued? What are the most important manifestations of its use?
- Was digital education at the University of Eloued able to meet student's and the teaching staff's needs for cognitive attainment?
- What are the most significant obstacles to its development compared to other national and international Universities?

Objectives of search:

- Knowledge of the level of digital education at the university of El-oued
- Knowledge of the mechanisms and methods of digital education at the university of El-oued
- Knowledge of the extent to which students and the teaching staff benefit from their use of digital means of education.

- Knowledge of the degree of teaching skills of faculty members through distance e-learning.
- Assessing the reality of the experience of digital education at the University of Eloued by identifying the negative pros.
- Provide practical proposals as solutions to overcome communication obstacles and improve digital education services.

Search Limits:
Spatial limitations: the study was conducted on students of the history division of the university of El-oued
Temporal limitations: It begins with Algeria's minister of higher education and scientific research letter N°. 288, dated 29 February 2020, in which the heads of the regional symposiums of the university and university directors were requested to take proactive, pedagogical and preventive measures to ensure the continuity of education in the light of the coronavirus pandemic; the limits of this research are terminated with Minister's Letter N° 634 dated May 14, 2020, which includes two sessions to discuss master's and doctoral memoirs.

Society and the test subject:
   The test subject included a group of students from the field of history of the department of humanities ; a bachelor's degree in the study society at the university of El-oued, who implemented (171) students chosen in a deliberate manner.

Methodology:
Descriptive method: I based on the descriptive method as the most appropriate for such studies, it helps to characterize the phenomenon of digital education at the University of El-oued.
Statistical method: I used the statistical method to monitor the proportions and numbers of the responsiveness of the study method to the digital services provided by the University of El-oued.

Previous studies:
- **Edward Swanstrom (2002):** This study aimed to give an accurate concept of the term "knowledge economy", highlighting its role in the development of scientific research theories.
- **Halima ez-zahi (2012):** This study aims to identify the reality of the application of E-education in Algerian universities by knowing the bases and requirements for achieving it and exposing the obstacles to its application.
- **Sara Ghran kliman (2017):** The study aimed to explore the opportunities and challenges created by digital technologies in several manifestations of society. moreover, the study attempted to come up with proposals to ensure the development of each citizen's technological skills, to remain active and inclusive in an increasingly digital society.

- **Zahia diab, Ouarda berouis (2019)** : This study was aimed at detecting the obstacles to the trend towards digital education in Algerian schools, especially in Algerian universities.

II- Identification of the fundamental concepts in research:

- **Digital Education:**

    There were divergent views and concepts differed between digital and e-learning, Mohammed SULEIMAN mentioned that digital education is the creative use of digital resources and innovations while teaching and learning. exploring the use of emerging technology offers teachers the ability in the classes they offer to design interactive learning environments, which can take the form of mixed or entirely online programs and courses(SULEIMAN,2020).

    It is the same definition as divya RAJ:" Digital education is that in which new technology is used to make teaching learning system effects" (Raj,2017).

- **Identification E-learning:**

    The E-Learning course is a flexible, web-based learn-on-demand system that allows a learner to complete the course in a way that suits their individual schedules. E-learning provides anytime, anywhere easy access to knowledge and skills(Raj,2017),according to the concept of the British Arab academy of higher education, E-learning is one of the innovations of educational technology and one of the forms of distance education by using modern means of communication such as computer, internet anytime, anywhere.[1]

- **knowledge economy:**

    It is a branch of basic science that is concerned with the production, innovation, dissemination and storage of knowledge, the EBRD[2] defines a knowledge economy as an economy that is able to grow through innovation or, in other words, by increasing total factor productivity, a knowledge economy is also characterised by technological dynamism and covers sectors, such as agribusiness or heavy industry, not necessarily associated with cutting edge innovation(EBRD,2022).

- **Educational attainment:**

    Is the scientific knowledge that students receive during their course of study, as well as the creative skills they acquired through the educational training courses in which they participated; in another definition refers to the highest level of education that a person has successfully completed(Cansever & Önder-Erol,2019).

III- Motives for digital education in the university of El-oued:

   Digital education in Algeria dates back to 2006, through the project announced by the ministry of higher education and scientific research in the framework of the strategic objectives for years 2007-2008-2009, which belongs to information and communication technologies, this project was in response to global academic requirements, therefore, the first implementation of the project was to equipping all university institutions with distance education equipment at a conservative cost estimate of 716152000 dz, however, the University of Eloued was delayed in implementing this project because she has shortness material and human potential, however,

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[1] the British Arab Academy of Higher Education, https://www.abahe.uk/e-learning-definition.html.
[2] EBRD: European Bank for Reconstruction and Development.

with the beginning of the 2011/2012 university entrance, the university of El-oued was quick to keep abreast of developments in information and communication technologies, subsequent to issuing of executive decree n°12-243 dated 04/06/2012 for promotion to a university, This is the first stage of the development of digital services at the university of eloued, the second phase of digital education in the University of Eloued begins in 2012 and extends to this day, It has two main motives:

- Striving for a place in the top ranks in the world rankings.
- Responding to ministerial laws and legislation, such as decision N° 288, dated 29 February 2020, and decision N° 416, dated 17 March 2020, decision N° 634, dated 14 may 2020, all these decisions were made in order to develop the performance of university institutions in the field of digitization of higher learning.

IV- Appearances of digital education at the University of Eloued:

- **E-learning**: based on ministerial decision n°170 dated 20 Feb 2018, create an electronic platform for written, visual and audio lessons aimed at students, In order to download various lectures and courses, on this basis, electronic accounts have been created for all professors of the University of Eloued, estimated at more than "800" professor to enable them to include their courses via the online platform.
- **Electronic Services in central library**: services provided by the central library to beneficiaries within the library building or via the Internet, such as references and, university memoirs catalogue.
- **Digital repository**: established in April 2019 in coordination with the automated Media Service, it contains various articles published and scientific research on the member of staff of the University of El-oued at the national, international levels, such as research materials, teaching materials, images, audio and video clips, book, reports and data, scientific theses, conference proceedings.

    The digital repository currently includes(Digital repository,2022):
    - ✓ 300 doctoral thesis(PhD)
    - ✓ 95 master's
    - ✓ 3132 scientific articles
    - ✓ 7099 master thesis
    - ✓ 913 research papers presented at national and international conferences
    - ✓ 144 works and professor's participation
- **Electronic documentation**: based on article 6 of the ministerial decision n°153 dated 14 may 2012(mesrs.dz,2022), joined the national electronic documentation system(SNDL), The registration process for this system began in 2011-2012, at the end of June 2020, the number of registered users was approximately 2,700 in the University of El-oued.
- **The electronic workflow system in the university library(Syngeb)**: This system was developed at the level of the Centre for scientific and technical research (Cerist) in Algiers in 1990, automating of printed documents of all kinds, this system was circulated to the university of El-oued in 2013.
- **Digital platform National (The Progress System)**: The ministry of higher education and scientific research has introduced progress since 2016; as the effective date for the beginning of its implementation at the university of Algeria, this system allows students

to be informed of the results of the quarterly examinations, and the continuous assessment Points of the directed and applied works

▪ **Create professional email for a members of staff and PhD students**: at the instruction of the ministry of higher education and scientific research, professional e-mail was created for each professor and doctoral student belonging to the university of El-oued.
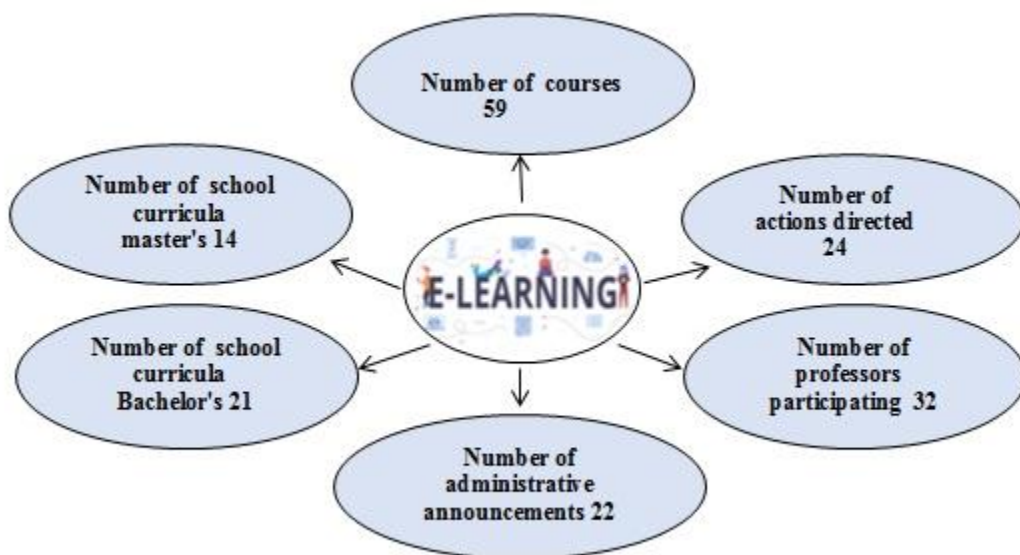

Figure 1: Digital Statistics on Electronic Communication and Distance Education under the Covid19
(10 March-1 June 2020)

V- The extent of the response Students to E-learning (students of the history department as a sample):

Although the efforts made by the University of El-oued to develop digital education years ago, but the responsiveness members of staff and students did not meet the aspirations of the university administration, however, the world's health crisis, caused by 19-COVID, has precipitated teaching staff and students by responding urgently to various educational electronic media, Based on the recommendations of the ministry of higher education and scientific research, the necessity of established ways to ensure distance teaching students under the exceptional health conditions experienced by Algeria due to the coronavirus pandemic.

Table 1: Some professors of the department of history of the university of El-oued responded in publishing lessons and acts directed for the second semester on the electronic platform(Mars- May 2020)

level	Number professors	Number of courses	Number of acts directed
First year		3	5
Second year	32	19	4
Third year		9	1
First year Master		28	14
Total	32	59	24

The data presented in table (1) show that Some professors responsiveness to distance education by posting lessons on the electronic platform, was with first-year students Master at 42 lessons, compared with other levels ,which has been reduced owing to technological difficulties, such as computer use, Internet use, especially first and second years.

Figure 2: Electronic platform for placing of lessons, directed and applied acts of the faculty of social and human sciences of the university of El-oued (April 2020)

Table 2: Some students responded in providing research for the second semester via the social media platform-Messenger (Mars- May 2020)

level	Number of group	Number of students	Number of students active	Number of research provided
First year	7	36	25	2
second year	3	27	24	3
	6	32	25	4
third year	2	35	34	7
	4	41	39	5
total	5group	171	147	21

The data presented in table (2) shows the proportion of students interacting with the social media platform by providing their research remotely at 147 students who will be deployed at five group, while third-year students are more responsive to the e-learning platform compared to the first and second year, but the number of research provided online remains very low relative to the overall number of students.

VI- Obstacles to E-learning at the University of Eloued:

Despite the importance of e-learning and its benefits to members of staff and students for the many benefits from learning knowledge or in terms of student's educational achievement, however, responsiveness to this type of education is not very responsive because of the many obstacles and challenges that the university administration must take into account.

These obstacles can be limited to the following:

✓ The absence of a directorate for digital education at the level of the central administration of the university of Eloued, and the absence of a clear strategy in this area, that seeks to achieve student outputs through electronic education.

✓ The absence of sufficient knowledge of how to use modern technologies for communication technology, created a reluctance in members of staff and students, and pushed them into preferring traditional education instead of e-learning.

✓ The weak rapid flow of the Internet, the absence of sufficient knowledge among members of staff and students of various electronic applications related to E-learning.

✓ The unequal opportunity between students to benefit from the advantages of e-learning , because of not having of telecommunication technologies, such as smartphones, computers, and the absence of Internet coverage in some rural areas, is illustrated by the feedback of many students on social media sites.

✓ The absence of training courses for students and members of staff would help encourage the acquisition of technical skills for e-learning.

✓ The nature of "elssoufi" society and social norms are an obstacle to students use of e-learning methods.

✓ Members of staff have difficulty in evaluating students electronically by conducting tests, assumptions and providing classroom research.

VII- Conclusion:

All I can say is, that in the present situation, digital education is an inevitability inevitable education. with the intelligence explosion in various ICT media, and while online teaching has been present during the pandemic in many universities worldwide, there is now a greater need to test its effectiveness(Abdelhadi,2022),if we want to assess the experience of digital education at the University of Eloued, it is still at the beginning compared to other universities, apparently through the educational procedure of this University in recent months and in the shade, the coronavirus pandemic indicates a strong will on the part of the officials for the development and improve the digital services, in spite of the existence of obstacles, that can only be achieved through the following recommendations:

✓ Invitation to university administration to increase the speed of the flow of the Internet,develop and improve the services of its various communication networks.

✓ Establishment of an e-education committee at the level of the prosecutor's office of the directorate of studies and student affairs, composed of professors and engineers specialized in the technology of automated media.

✓ Establishment of a steering and guidance committee to deal with various difficulties and electronic problems of the members of staff.

✓ Conduct training sessions for members of staff and students on how to use e-learning strategies.

✓ Reconsider the content of courses on automated media and vaccinate them to serve e-learning strategies.

✓ Make audio and video recordings of digital education programs and publish them through the various websites of the university so that students and members of staff can access them, in order to overcome technical difficulties.

✓ Conducting training courses in the field of e-learning for both instructors and students, help get rid of all the obstacles that prevent utilizing from the e-learning system.

✓ The quest to reduce the digital and knowledge divide at the University of Eloued compared to some national universities, which have made considerable headway in improving the quality of education.

✓ Combine face-to-face and e-learning in higher education institutions in the future.

❖ **Acknowledgments:**

The author greatly values the participation of members of staff and students of the University of Eloued in this scientific paper and their willingness to share their experiences.

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IX-Annexes:

Instruction N° 416 for the minister of higher education and scientific research view to establishing electronic Pedagogical foundations

الجمهورية الجزائرية الديمقراطية الشعبية

République Algérienne Démocratique et Populaire

Ministère de L'Enseignement Supérieur
et de la Recherche Scientifique

وزارة التعليم العالي
والبحث العلمي

Le Ministre

الوزير

17 مارس 2020

الجزائر، في ....

رقم 416/ أ.خ. و/ 2020

إلى السيدات و السادة رؤساء المؤسسات الجامعية

الموضوع: وضع الدّعائم البيداغوجية عبر الخط.

المرجع: المراسلة رقم 288 /أ.خ.و / المؤرخة في 29 فيفري 2020.

على ضوء الوضعية الوبائية التي تمر بها بلادنا حاليا، المعلن عنها من طرف منظمة الصحة العالمية، اتخذت الوزارة مجموعة من التدابير لمواجهتها والتي فرضت علينا اللجوء إلى التعليم عبر الخط.

وتبعا للمراسلة المذكورة في المرجع أعلاه ، نذكركم بضرورة مراعاة المحتوى الأكاديمي من خلال تعويض دروس المحاضرات و الأعمال الموجهة والأعمال التطبيقية الحضورية بمثيلاتها عبر الخط، أو عبر وضع الدّعائم البيداغوجية عبر الخط. من شأن هذه الدّعائم ضمان التواصل الدّائم بين الأستاذ و الطالب وجعلها أيضا في متناول جميع الطلبة على المستوى الوطني.

يتعلق الأمر بمبادرة تتطلب تجنيد كافة الأسرة الجامعية حول هذا النمط من التعليم حيث أن استغلال الجوانب الايجابية للرقمنة و استخدام تكنولوجيات الإعلام و الاتصال من شأنه أن يشكل العناصر الأساسية البارزة في سير جامعة الغد .

من أجل هذا، أدعو السيدات و السادة رؤساء المؤسسات الجامعية ورؤساء المجالس العلمية للكليات وكذا رؤساء اللجان العلمية للدوائر للانخراط شخصيا بالاتصال بالأساتذة لحثِّهم على ضرورة اتّباع هذا المسعى الذي يرمي إلى التحسين المستمر للفعل البيداغوجي.

كما أطلب كذلك من السّيدات والسادة رؤساء المؤسسات الجامعية بموافاتنا بتقارير حول الوضعية العامة لوضع عبر الخط الدعائم البيداغوجية عن طريق مديرية التعليم.

إنني أولي أهمية قصوى للتطبيق الصارم لفحوى هذه التعليمة.

وزير التعليم العالي و البحث العلمي

الأستاذ: شمس الدين شيتور

Instruction N° 634 for the minister of higher education and scientific research view to continue pedagogical activities using various electronic media and how to conclude the university year 2019-2020

الجمهورية الجزائرية الديمقراطية الشعبية

République Algérienne Démocratique et Populaire

Ministère de L'Enseignement Supérieur et de la Recherche Scientifique

وزارة التعليم العالي والبحث العلمي

Le Ministre

الوزير

الجزائر، في 14 ماي 2020

الرقم: 634/أ.خ.و / 2020

السّادة رؤساء الندوات الجهوية للجامعات

بالاتصال مع السيّدات والسّادة مدراء المؤسسات الجامعية

الموضوع: مواصلة النشاطات البيداغوجية واختتام السنة الجامعية 2019 – 2020

إن الوضعية الصحية التي تمر بها بلادنا فرضت علينا التعليق المؤقت للنشاطات البيداغوجية حضوريا في مؤسسات التعليم والتكوين العاليين، وإثر ذلك تم اللجوء لمواصلة التعليم عن بعد وذلك عبر منصات بيداغوجية مخصصة بالإضافة إلى وسائل رقمية للاتصال.

لقد ساهم تجنّد الأساتذة في دعم هذا الاختيار والانخراط التدريجي للطلبة في هذا النمط التعليمي في استمرارية النشاطات البيداغوجية لمؤسسات التعليم والتكوين العاليين، وعليه يجب تدعيم هذا الجهد بغرض اختتام السنة الجامعية 2019 - 2020 في ظروف مقبولة في كنف احترام المعايير البيداغوجية ومراعاة الوضعية الصحية الاستثنائية التي نعيشها. في هذا الصدد، فإن للفرق البيداغوجية والمجالس العلمية دورا محوريا في التنسيق والمتابعة البيداغوجية وكذا المصادقة على محتوى التعليم المنجز.

نظرا لتأجيل الدخول الجامعي 2020 – 2021 إلى غاية نهاية شهر أكتوبر 2020 بالنسبة لطلبة السنة الثانية فما فوق، وإلى منتصف شهر نوفمبر 2020 بالنسبة لحاملي شهادة البكالوريا الجدد، الذي تقرّر في اجتماع مجلس الوزراء المنعقد يوم 10 ماي 2020، فإن رؤساء المؤسسات الجامعية، بالتنسيق مع الفرق البيداغوجية والمجالس العلمية مدعوّون للسهر على مواصلة النشاطات البيداغوجية عبر الخط التي شرع فيها وتعزيزها أكثر في انتظار العودة إلى نمط التعليم الحضوري بمجرد تحسن الوضعية الصحية.

في كل الحالات بما فيها إمكانية عودة النشاطات البيداغوجية حضوريا في الأسبوع الثالث من شهر أوت 2020، فإن اختتام السنة الجامعية 2019 – 2020 في أواخر شهر أكتوبر 2020 على أقصى تقدير، يجب أن يتمّ بعد إنجاز البرامج البيداغوجية وضمان الاختبارات التقييمية المعتادة، والتئام لجان مداولات نهاية السنة.

من جهة أخرى، نذكر بأن مناقشات مذكرات التخرج، يجب أن تتمّ خلال شهري جوان وسبتمبر 2020 كأقصى حدّ، أما بالنسبة لأطروحات الدكتوراه والتأهيل الجامعي يمكن تنظيم مناقشاتها باستمرار كلّما اقتضى الأمر، وهذا بمراعاة التدابير الوقائية ومراعاة التباعد الاجتماعي في كل الحالات.

أخيرا، يطلب تحفيز الطلبة لمناقشة رسائلهم باللغة الإنجليزية، وتقديم ملخص لأبحاثهم في بضع صفحات باللّغة الإنجليزية.

إنّني أولي أهمية خاصة لتطبيق فحوى هذه المذكرة.