

"Exploring Digital Education's Influence on the Academic Achievement of First-Year Social Science Students"

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Abstract: This study aims to understand and analyze the reality of digital education and its relationship to academic achievement in the Algerian university, specifically in the department of sociology in Mascara. This is considering the importance of the university institution in producing future leaders and indirectly contributing to human development. the ministry of higher education and scientific research has sought to legislate on distance education for several years, dating back to 2006. However, its practical implementation occurred during the academic year 2020 due to two factors: the first being related to the COVID-19 pandemic, and the second to the necessity of keeping up with technological changes and transformations in the world.

The study concludes that digital education has been initially implemented in the university, despite facing obstacles such as poor internet connectivity and difficulty reaching remote areas. Additionally, the present study has revealed that there is a lack of awareness among both students and professors regarding how to interact with this type of education, which has impacted the quality of academic achievement in this category.

Keywords: Digital education; Academic achievement; Distance Education; University.

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Introduction:

The university is considered a social institution that produces future professionals and contributes to achieving social and economic development through the various specializations, which include programs and curricula that help achieve its general objectives.

The university institution in Algeria has undergone numerous reforms in line with social changes and emerging transformations. Like other societies, society has not been spared from the impacts of the COVID-19 pandemic, which required adopting a set of measures to adapt to the general situation.

As a result, Algerian universities adopted digital education (distance learning) as one of the primary strategies to avoid a blank year. This shift involved the use of social distancing measures, which, on one hand, helped address the university's need for instructors, and on the other hand, provided an opportunity to apply technological operations to the educational process. This has led to a new challenge concerning the quality of academic achievement, especially for first-year students.

Each year, the university integrates thousands of high school graduates into a new academic and social environment, marking a transition from a structured and dependent educational system to one that requires greater autonomy, which often reveals a gap between their previous schooling and the sociocultural demands of higher education. Upon entering, students find themselves in need of adapting to a new social world. Additionally, the rise of virtual education might deprive students of the opportunity to adapt to the university atmosphere, as they are confined to obtaining information in an environment that is different from the traditional classroom. Therefore, this article seeks to shed light on the following question:

What is the reality of academic achievement for first-year social science students in the context of digital education?

I. Study Hypothesis

First-year social science students experience a sense of alienation under digital education due to distance learning, particularly in the courses taught remotely. This impacts the two main processes of educational interaction. Given the challenges linked to student awareness and internet connectivity, both professors and students have resorted to the neoclassical approach, where lessons and assessments are sent via email, and students respond in the same manner. This has affected the effectiveness of digital education and the quality of academic achievement for these students in those courses.

II. Definition of Concepts

University Student: "A person who has obtained a baccalaureate degree and has moved on to study at a university institution" (Mzech, M, 2008-2009: p 15). In our study, we refer to the university student as an individual who has obtained the high school diploma, commonly known as the baccalaureate, and who has decided to continue their higher education in one of the university institutions in Algeria.

II.1- Academic Achievement

"A specific level of accomplishment or proficiency in schoolwork, measured by teachers or through required tests, with the scale being the total grades a student receives at the end of the academic year" (Al-Eisawi, A, 2006: p 13). In our study, it refers to the defined level of progress or skill in academic performance, measured through evaluations by university professors or specific tests. The total grades obtained by a student at the end of the semester or academic year are used as a measure of this achievement.

II.2- Alienation

"A feeling of estrangement and inability to adapt to the institution in which the student studies, or as Kandari defines it: "The feeling of loneliness and the attempt to distance oneself from the prevailing social relationships in the society in which one lives" (Kandari, Y, 2022: p 134). In our study, it refers to the feeling of

being alienated and the inability to adapt to the social environment or institution the student is in. It describes an individual's sense of isolation and their attempt to distance themselves from the dominant social relationships in the university.

II.3- Neoclassical Method

Here, we offer a definition of the concept, referring to the method employed by the professor in interacting with students, which exists in the space between traditional and modern pedagogical approaches. This method reflects the dynamic interplay between historical educational frameworks and contemporary practices, influencing the teacher-student relationship in a context of evolving societal norms. It does not rely on the conventional method of in-person lectures, nor does it fully adopt virtual lessons, which have specific conditions for implementation.

II.4- Educational Evaluation

"The judgment of the extent to which the goals of the educational institution have been achieved, by assessing the desired changes in the behavior of the learners or measuring their progress toward achieving the educational goals" (Kazem, A.M, 2001: p 17). In our study, it refers to an evaluative process aimed at judging the extent to which the goals of the university have been achieved. This is done by monitoring and evaluating the desired changes in the students' behavior and measuring their progress toward achieving the defined educational goals.

II.5- Digital Education

"Education that relies on electronic media for communication between the professor, the student, and the entire educational institution, allowing active interaction with this content" (Yakhlef, R, 2019: p 175). In our study, it refers to a type of education that depends on the use of electronic media in the communication process between the professor, the student, and the educational institution as a whole. This type of education allows students to actively engage with educational content and learn in a digital

environment that offers flexibility and adaptation to each student's needs.

II.6- Professor:

"A group of individuals who convey knowledge and are responsible for the smooth operation of the educational process at the university, performing various functions and duties such as teaching, providing academic guidance to students, conducting scientific research, and supervising research projects" (Jaber, A.J, 2000: p 35). In our study, it refers to the university professor in the sociology department at the University of Mascara.

II.7- Educational Interaction

"The nature of communication between the professor and the student within the classroom, known as real educational interaction. On the other hand, virtual interaction refers to communication that occurs between the professor and the student through technological means" (Abu Sanina, A.A, 1990:p 120). In this study, it refers to the nature of communication between the professor and the student in the classroom, where knowledge and guidance are exchanged directly. Real educational interaction is defined by this concept. Virtual educational interaction, on the other hand, takes place remotely, where communication occurs between the professor and the student through technological means such as the internet or virtual classroom applications.

III. Research Methodology:

In this study, we employed a qualitative approach to describe and analyze the reality of digital education and its significant effects on academic achievement.

III.1- Research Population, Sampling, Sample, and Technique Used

The research population consists of first-year sociology students. The sampling method used was non-probability sampling, and we specifically selected a purposive sample of 40 students, comprising 20 females and 20 males. We utilized an unstructured interview technique.

III.2- The Reality of Digital Education in Algerian Universities: Between Laws and Reality

Digital education has gone through two stages, according to experts:

"Among them is Mark Brown, a professor at Harvard University, who talked about the importance of digital education in developing educational systems and integrating technology effectively in both public and private education. He noted that digital education helps facilitate access to knowledge worldwide and allows students to learn at their own pace"(Brown,Mark,2022 :p144).

"Neil Selwyn, an expert in digital education and educational innovation, focused on the impact of digital learning tools, such as online education platforms and educational apps, in improving the effectiveness of education, especially in higher education" (Selwyn,Neil,2024,p85).

John Hattie, a professor at the University of Melbourne, is known for his extensive studies on the impact of digital education on student outcomes. His research showed that the use of educational technology in the classroom can enhance academic performance if strategically integrated with traditional teaching methods.

Tony Bennett, a researcher in the field of digital education, discussed in his studies the impact of using smart devices and educational software in helping students develop 21st-century skills, such as critical thinking and problem-solving.

Christine Johnson, an expert in digital education, focused her research on how students interact with digital tools in various educational environments and how to improve these tools to meet the needs of modern learners.

First Stage (1990-2000): The launch of the internet and the beginning of online communication between individuals.

Second Stage (2001 to the second generation of the information network): The availability of software that allows users to have their own databases(Bousaba, A., 2016: p 285).

Distance education is a modern form of education that uses technological media to deliver information to students. However, the activation of this type of education requires many conditions, including high-speed internet and awareness from both the students and the instructors regarding the intricacies of this process.

Distance education is not, as some may think, simply converting Word documents into PDF format and uploading them to the educational platform. Rather, it is an interactive virtual education that takes place through a series of mechanisms and processes that control its course, allowing students to engage regularly with the lessons while adhering to structured guidelines.

The COVID-19 pandemic played a significant role in implementing this education model. Since the announcement of the pandemic in March 2020, the communication between instructors and students began to occur via the Moodle online platform. Although this concept and project had existed since 2006, the pandemic forced its application due to the need to continue education and cover the gap in supervision within universities.

As Ahmed Belhani, the president of the National Committee for Distance Education and representative of the Minister of Higher Education, stated in a press conference: "Virtual education has been available at universities since 2006, with the provision of modern technologies and tools. However, from that time until 2016, the ministry launched a new program to train professors... The university also developed distance learning programs with approximately 13 training courses designed to meet student expectations and align with global models" (Press conference).

The matter remains at the theoretical level or as something that should be a social preference. The transition from the classical to the modern is something that everyone sympathizes with and supports. However, when we go to the field and conduct exploratory interviews with students (first-year, second semester, majoring in Social Sciences), we found that they have no connection to what is called digital distance education. Most of the students answered that they do not know how to deal with this type of education. Some complained about the quality of the internet in their homes, while others acknowledged that they had no internet at

all. They indicated that the professor sends the materials for these courses to them in PDF format via email. In return, they answer the questions and send them back directly to the professor's email.

The question that arises here is whether we are truly facing digital distance education, or is it an education that distances the student from the university and interaction with the professor?

When we talk about distance education, we are addressing questions about the interaction of these students with both the information and the professor. We found that students rely on cheating in answering the assignments given to them. They also have no idea about the name of the professor or the course title—except for one student. This leads us to once again discuss the reality of educational achievement in light of these circumstances.

Digital education, as it should be, relies on several criteria that must be met to ensure quality and effectiveness. These include:

Developing a clear strategy for implementing the digital transformation plan.

Providing qualified human resources for this transformation.

Achieving flexibility to overcome any obstacles that may face education.

Implementing the project gradually.

Allocating sufficient financial resources to meet the needs of this education, including computers, printers, scanners, cameras, etc.

Enacting laws to protect intellectual property of content published in the virtual world (Zabat, L., Saadawi, N., 2020: p 27).

It is undoubtedly clear that the ministry of higher education and scientific research has worked hard to achieve the aforementioned criteria by implementing a clear strategy: A specific digital transformation plan must be developed with defined objectives and future steps to ensure the effective implementation of digital education.

Providing qualified human resources: Digital education requires qualified and trained personnel to design and implement

digital educational content and support students and teachers in using technology.

Achieving flexibility: Appropriate infrastructure and policies must be in place to deal with the challenges and problems that may arise during the implementation of digital education.

Gradual implementation of the project: Gradual implementation allows for adaptation to changing circumstances and the opportunity to experiment with different methods and tools before fully applying them.

Providing financial resources: Digital education requires investment in infrastructure and technical equipment such as computers, printers, etc., as well as specialized technology to deliver remote education.

Enacting intellectual property protection laws: Laws and policies should be established to protect intellectual property rights and privacy on the internet, ensuring the digital safety and security of learners and educators.

However, uncertainty and ambiguity still surround the application process, especially since the readiness of individuals for this type of education was lacking. The situation arose in a special and urgent context to continue the academic year and avoid a "lost" academic year. Therefore, the complexities faced by digital education in Algeria can be summarized as follows:

- Developing standards: This relates to the CDs or books that the state invests in, which are considered non-modifiable. On the other hand, our universities are in desperate need of revisiting these programs.
- Lack of clarity regarding the methods and approaches used in digital education: Each university, and even each major, imposes a specific type of approach, with no incentives to encourage this form of education.
- Lack of specialists in pedagogy during the design of digital education: This results in the absence of a clear plan and standardized program.

- Lack of legal protection for online courses.
- Emergence of advertisements during the digital education process.
- Students' lack of response to the education.
- Insufficient training for professors involved in this education: The training period did not exceed a single lecture lasting two hours (Siboukr, A., Ben Sayeh, A., 2012: p 81).

IV. Digital Education and Academic Achievement: Between Effectiveness and Information Overload

Academic achievement is considered one of the important mechanisms for assessing the effectiveness of the education provided, based on the behaviors and results that students achieve in exams. It is divided into three types: good academic achievement, average academic achievement, and poor academic achievement.

Students' academic achievement is influenced by several factors, including social affiliations and the quality of education provided in the classrooms. However, what concerns us here is not related to the previous two indicators, but rather to a new type of education that has spread widely in Algerian universities after the COVID-19 pandemic, which is digital distance education. Some exploratory and even methodological courses have been designated to be taught remotely.

To begin with, we need to understand the types of digital education in order to diagnose this phenomenon. Scholars have agreed to divide it into three types:

"Synchronous e-learning: This is direct e-learning, which requires the presence of both teachers and learners at the same time.

Asynchronous e-learning: This occurs through email or other means, where the presence of both teacher and learner at the same time is not required.

Blended learning: This method combines different means of learning a particular subject, mixing direct lecturing in the classroom with online communication." (Salem, A., 2004: p 287).

After examining the various forms of digital education, we can now turn our focus to its social implications and its impact on academic achievement, considering how these digital practices shape the learning experience and influence students' educational outcomes within a broader societal context. After visiting the field and interviewing students, they expressed great dissatisfaction with this type of education. As we mentioned earlier, they do not have high-speed internet, which weakens the communication process. Some of them also do not have a computer or even a smartphone that would allow them to access the lectures. Additionally, there is a lack of standards for creating virtual lessons, as we found that they are using the first type of digital education, which is sending lectures and assignments via email. The Moodle platform, used for uploading virtual lessons, remains devoid of content. It represents a dynamic learning environment, which involves both parties practically in the learning process. It includes "32 million users and 4 million free online lessons, designed within the framework of socio-constructivist training, aiming to meet students' needs" (Ahmid, H., 2018: p 69).

What is happening in reality is entirely the opposite of what is theoretically proposed. While the use of technology in education, especially distance learning, cannot deny its positives in saving time, ensuring effective educational interaction, and covering the lack of guidance in universities today, when we looked at the students' results in the courses taught remotely, we found that the students did not fully comprehend the content delivered through the platform. The academic achievement seems to show that the students obtained good results in these courses, but when we approached them and asked about the basics of what had been covered, we noticed a significant weakness. This can be understood by referring to the principles of academic achievement, which include:

"Motivation: The lack of motivation to learn these courses, to the point that they don't even consider them in their daily conversations, as if they are not related to the program at all.

Principle of Individual Differences: The variation in academic achievement in digital distance learning is related to individual

differences between students, which can be attributed to their cultural and social capital. For instance, someone with a high-end smartphone is not the same as someone with a regular phone, and the same applies to those who do not own any phone or computer. Furthermore, some students face difficulties in accessing the internet due to living in remote areas or having low economic capital that prevents them from getting internet access.

IV.1- Principle of Memorization and Recall:

This principle was particularly evident in students, as they focused heavily on it in this form of education. All students, whether they had access to the internet or not, sought to obtain the lectures and memorize them for recall during the exams. This explains the high results in these courses.

IV.2- Principle of Realism and Environment:

Connecting the educational material with the student's environment is highly beneficial for capturing their attention and achieving good academic performance. However, what we noticed about the material presented was that it was completely detached from the reality of the students, both in terms of time and location.

IV.3-Principle of Participation:

This principle was entirely absent, given that we are talking about digital distance education. Participation is essential to foster competition and discussion among students, which allows the exchange of ideas and sometimes corrections.

IV.4-Principle of Modernity and Renewal:

The educational material provided should be modern and new, and the method of presentation should be engaging and interactive, varying from time to time to break the routine and boredom. However, what we observed were a set of lessons in the form of PDFs, lacking examples and new content.

Principle of Preparedness and Interests: The lack of interest among students in studying a particular course or even a specific discipline may affect the quality of their academic achievement. A large percentage of students, after speaking with them, revealed that they were forced into social sciences. Hence, talking about classical

or modern education seems futile here, as the student is not accepting what is being offered to them in any form." (Mazoughi, E. S., 2011:p 82).

These criteria highlight the key factors that should be considered to ensure the quality and effectiveness of digital education.

"It helps in identifying the main points that must be considered to ensure a fruitful learning experience for students. Through these criteria, it appears that success in digital education depends not only on the infrastructure and technology available but also on psychological and social factors related to students and methods of delivering educational content.

Digital education, which is characterized by the use of digital tools and platforms, has become an essential part of modern learning environments. Many researchers have reviewed the impact of digital education on academic achievement, showing that when applied effectively, it can significantly enhance learning outcomes. Digital educational technologies, from online courses to educational applications, offer a wide range of possibilities designed to enrich students' learning experiences.

It has been shown that using digital tools like educational apps, online courses, and interactive platforms has a positive impact on academic achievement. A study conducted by Johnson et al. (2016) found that digital tools that allow students to learn at their own pace can lead to improvements in their academic performance. These tools also provide instant feedback, helping students to correct mistakes quickly, which enhances their retention of knowledge (Johnson, M., Smith, R., & Allen, 2016: p 90)."

"The use of specific digital tools, such as online learning platforms and virtual classrooms, has been linked to improved academic performance. According to Baker et al. (2020), studies have shown that students with regular access to digital educational resources, including interactive lessons and tutoring courses, demonstrated significant improvements in their academic achievement. These platforms make learning more flexible and allow students to review materials repeatedly, enhancing their

understanding of the content (Baker, A. J., Lang, A., & Ramage, J, 2020, p. 114).

The success of digital education in improving academic achievement is not only reliant on the availability of technology but also on several other factors. According to Selwyn (2016), teacher preparation plays a crucial role in determining the effectiveness of digital education. Teachers who are well-trained in using digital tools in their teaching are more capable of enhancing student engagement and achieving positive learning outcomes. However, a lack of training can lead to ineffective use of digital tools, hindering academic progress (Selwyn, N, 2016: p120).

Furthermore, Hernandez (2018) emphasized that disparities in access to technology contribute significantly to the achievement gap. Students from wealthier social classes have greater access to digital devices and the internet, allowing them to benefit more from digital education compared to students from low-income families (Hernandez, L, 2018: p 220).

Despite the potential benefits, there are challenges that can limit the positive impact of digital education on academic achievement. Kirkwood and Price (2014) highlighted that digital education can sometimes lead to distractions, especially if students are not adequately monitored. In the absence of proper supervision, it can be difficult to fully capitalize on the potential of digital tools (Kirkwood, A., & Price, L, 2014: p 30).

The lack of direct interaction in digital learning environments has been criticized by Vaughan (2018), who pointed out that social learning and collaboration—essential components of critical thinking—are often limited in online education. This can hinder the development of social and cognitive skills that are necessary for academic achievement (Vaughan, N. D, 2018: p 115)."

While digital education holds great promise in improving academic performance, its effectiveness depends on several factors, such as teacher training, equal access to technology, and students' ability to maintain focus. These challenges must be addressed to ensure that everyone benefits from digital education and, consequently, improves academic outcomes."

Conclusion:

In conclusion, the relationship between academic performance and digital education, especially remote learning, has evolved significantly over the past decade. With the increasing availability of online resources, students can engage with learning materials in a more comprehensive and detailed manner. Research shows that students who adopt digital education can often achieve comparable or even superior results compared to those in traditional learning settings. The rise of technology, social media platforms, and digital tools has facilitated communication between students and professors, enhancing engagement and fostering more effective interactions. Remote learning also allows students to better manage their time, contributing to improved time management and increased motivation to succeed academically.

However, challenges remain in fully optimizing the benefits of remote learning, particularly regarding student engagement and commitment. These issues can be addressed through collaboration between students and professors to create more effective learning experiences. As digital education becomes more prominent in Algerian universities, several obstacles need to be overcome. These include improving technological infrastructure, providing necessary training for both students and faculty, encouraging active participation, supporting mental and social health, and enhancing digital security and privacy. Tackling these challenges requires a concerted effort from government authorities, universities, the private sector, and the local community to ensure a sustainable and effective digital learning environment that fosters high-quality education.

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