

Distance e-learning in Algeria: An evaluative vision from the Students' Perspectives

التعليم الالكتروني عن بعد في الجزائر:
رؤية تقييمية من وجهة نظر الطلبة

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Abstract:

This study aims to evaluate the experience of distance e-learning from students' perspective in Algeria, exploring their satisfaction with this educational approach, the challenges they encounter, and the advantages they perceive. Through a field study that includes a survey on a sample of second-grade students, we seek to provide a clear vision of the experience of distance e-learning among students in Algeria.

The study findings indicate that the distance learning experience depends on a variety of technical, personal, and environmental factors. The majority of students have expressed general appreciation for distance learning, highlighting that it meets their needs and aligns well with their learning preferences. It provides several benefits, including the convenience of studying from home or any location, the flexibility to access courses at any time, and the savings in both time and money by eliminating the need for commuting. These factors contribute to a successful adaptation to this mode of education. In terms of challenges, they were technical such as control over technological tools and internet connectivity.

Keywords: E-learning, distance learning, education, students, university.

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ملخص:

تهدف هذه الدراسة إلى تقييم تجربة التعليم عن بعد من منظور الطلاب في الجزائر، من خلال استكشاف رضاهم عن هذا الأسلوب التعليمي، التحديات التي يواجهونها، والمزايا التي يرونها. من خلال دراسة ميدانية تتضمن استبياناً على عينة من طلاب السنة الثانية، نسعى لتقديم رؤية واضحة حول تجربة التعليم عن بعد بين الطلاب في الجزائر.

تشير نتائج الدراسة إلى أن تجربة التعليم عن بعد تعتمد على مجموعة من العوامل التقنية والشخصية والبيئية. قد أبدى أغلب الطلاب تقديرهم العام لهذا النوع من التعليم، مؤكدين أنه يلبي احتياجاتهم ويتمشى مع تفضيلاتهم في التعلم. أظهرت الدراسة أن التعليم عن بعد يوفر العديد من المزايا، مثل الراحة في الدراسة من المنزل أو أي مكان آخر، المرونة في الوصول إلى الدورات في أي وقت، بالإضافة إلى توفير الوقت والمال من خلال تجنب التنقل. تساهم هذه العوامل في تكيف ناجح مع هذا النمط التعليمي. أما بالنسبة للتحديات، فقد كانت تقنية، مثل التحكم في الأدوات التكنولوجية واتصال الإنترنت.

الكلمات المفتاحية: التعليم الإلكتروني، التعليم عن بعد، التعليم، الطلاب، الجامعة.

Introduction

The rapid shift to distance e-learning, accelerated by technological advancements and external factors such as the COVID-19 pandemic, has significantly transformed the global education landscape (Guessouri, 2023; Nurdayana, 2023). In recent years, the need for more flexible and accessible learning options has driven the widespread adoption of online education platforms. The widespread transition to distance e-learning has revealed significant challenges for many students, including varying levels of infrastructure, limited access to technology, unstable internet connections, and a lack of familiarity with digital tools.

In Algeria, as in many other countries, this transition has posed unique challenges and opportunities for both educators and students. It also raises questions about student engagement, satisfaction, and the overall impact on learning outcomes. Given the continued reliance on digital distance learning platforms, understanding how students interact with and perceive these systems and tools is critical to improving the quality and effectiveness of distance learning.

This study aims to assess the experiences of students with distance e-learning, in Algeria, focusing on their perceptions of its advantages and disadvantages, as well as the challenges they face.

Problem

Technological advancements and recent global events have accelerated the rapid shift to distance e-learning in Algeria, raising important questions regarding its effectiveness and impact on students' academic experience. While distance education offers flexibility and accessibility, it also presents unique challenges related to technology infrastructures, internet connectivity, and student's adaptation. As the use of e-learning tools becomes more widespread, it is crucial to understand the effectiveness of this learning system from the perspective of students, who are the primary stakeholders in the educational process. Our main question is: **How do students evaluate their experience with distance e-learning in Algeria?**

Theoretical framework

Distance learning

Distance learning is a field of education that emphasizes teaching methods and technology to provide instruction, typically on an individual basis, to students who are not physically present in a traditional classroom. It has been described as a process that facilitates access to learning when the source of information and learners are separated by time, distance or both (Anderson and Rivera-Vargas, 2020).

E-learning

E-learning refers to the use of technology to support and enhance the learning process (Mubarak, 2014). As cited in (Blandin, 2011), this term refers to any training system that relies on a local, wide-area, or Internet network to deliver, interact, or communicate.

Distance e-learning

Distance e-learning refers to an educational approach that uses digital technologies to deliver learning content and experiences to students who are not physically present in traditional classroom. This method allows learners to access courses, materials and resources from anywhere and anytime (Anderson and Rivera-Vargas, 2020).

Distance e-learning is an educational approach that emphasizes the integration of pedagogy, technology, and instructional system design to effectively deliver education. It enables both students and teachers to communicate and engage in learning, either asynchronously or synchronously, through various digital platforms (Mubarak, 2014). In the synchronous modality, the teacher and the students interact in real time. In the asynchronous modality, the interaction doesn't take place simultaneously, the teacher can send instructions via video, computer tool, and the students reply later.

Advantages of Distance e-learning

The key advantages of distance e-learning include:

- **Convenience:** Modern technological offer many advantage in the field of Distance e-learning, such as the ease of distributing and publishing educational materials and the accessibility for students without the need to move to classrooms.
- **Efficacy:** Distance e-learning can be very effective and capable to achieving the aims of educational process, when it appropriate technologies are available, along with the possibility of continuous feedback and interaction between teacher and students.
- **Flexibility:** Distance e-learning systems provide for students the ability to attend classes at their preferred times and refer to educational materials at any time, suits their needs.
- **Multimedia:** Distance e-learning provide educational materials through various multimedia formats, such as visual and audio media, in a way that suits the individual learning types of each student.
- **Interactivity:** Distance e-learning may contribute to increasing students' interaction, and may also increase the activity of introverted students who face difficulties to ask questions in front of their peers in a traditional classroom.
- **Equality:** Distance e-learning helps to overcoming some problems related to geographical location, that may deprive certain students of education.

Distance e-learning platforms

Distance e-learning platforms are digital tools or online systems that facilitate the delivery of education remotely, allowing students to access learning materials, participate in interactive sessions, and complete assignments from anywhere with an internet connection. These platforms typically include features such as video lectures, discussion forums, quizzes, and collaborative tools, enabling students to engage with content and instructors asynchronously or synchronously (Mhlanga, 2024). There are numerous platforms available, each catering to different needs and audiences, such as: Moodle, Canvas, Google Classroom, Zoom, Coursera. These platforms vary in their features and target audiences (Liu et al., 2020).

Moodle is the most widely used platform in higher education institutions in Algeria. It is an open-source learning management system (Moodle, n.d.). It is available in over 100 languages, including Arabic (Slimani and Bentahar, 2019).

Related works

In recent years, research interest in distance e-learning has increased significantly, especially in light of rapid technological transformations and challenges faced by the world.

Distance e-learning is an effective tool to address traditional barriers to access to knowledge, allowing students to learn from anywhere and at any time. The importance of this type of learning is evident in its ability to provide equal education opportunities, promote self-learning, and meet the different needs of students.

In Algeria, many studies on distance e-learning have focused on several main aspects, by examining the process of introducing Information and Communication Technology (ICT) in order to ensure the quality of education in Algerian universities. (Houchine, 2020; Slimani and Bentahar, 2019), highlight the challenges and obstacles arising from inadequate infrastructure and the shortage of human and technical resources.

(Khabrara, 2021; Boujmaa and Bechaoui, 2021; Zinet, 2022) define some challenges during the pandemic Covid 19, the period during which Algeria relied extensively on distance e-learning in the university education. The most prominent of these challenges was identified in speed of internet flow, lack of training of students and teachers in the use of modern technologies, lack of self-learning skills, poor response of students to this type of learning, difficulty of

access for some students and difficulty of evaluation, lack of the skills necessary to use technological learning tools.

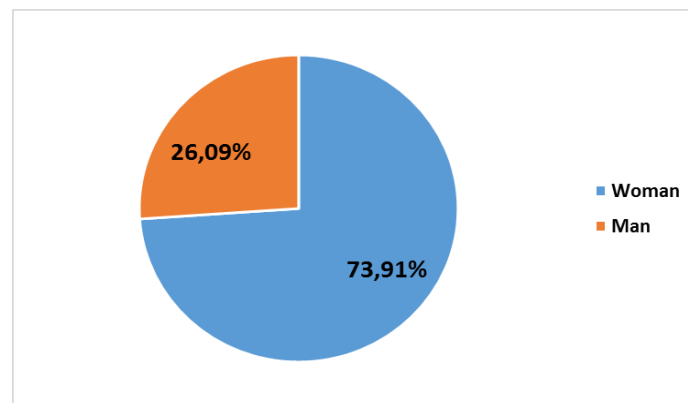
These studies show that there are significant efforts, but these efforts face major challenges. This is what interests us in this study and makes us wonder about the extent of progress of the distance e-learning experience from the students' point of view.

Methodology

Sample

A sample is a part of the population chosen to represent the whole population. In this study, the target population consists of students enrolled in distance e-learning classes, and our sample comprises 69 second-year undergraduate students. Initially, we collected responses from 150 students during the second semester of the 2024 academic year. However, we performed a thorough cleaning process to ensure the quality of the data before analysis, which included removing incomplete responses, ultimately resulting in a final sample of 69 students. This sample consists of 51 females (73.91%) and 18 males (26.09%) as shown in Figure 01.

Figure N° 01: Gender distribution of the sample



Data Collection Instruments

The current paper employed the quantitative survey research approaches; data were collected using a survey. Angres defines the survey as "A direct scientific technique, allowing individuals to be questioned in a targeted manner." (Angers, 1997).

In order to explore students' perspectives towards distance e-learning, our survey is divided into a set of questions that focus on

several aspects including: learning preferences and styles, technological skills, prospects and challenges.

Validity and reliability

According to Messick, validity is defined as “an overall evaluative judgment of the adequacy and appropriateness of the data collected and the examination of the findings” (Weideman, 2013). In this study, expert reviewers ensured validity through a comprehensive evaluation of the questionnaire. These reviewers assessed the content, clarity, and relevance of the questions to ensure they accurately measured the intended constructs. This process helped confirm that the instrument was appropriate for the study’s objectives and capable of collecting meaningful data.

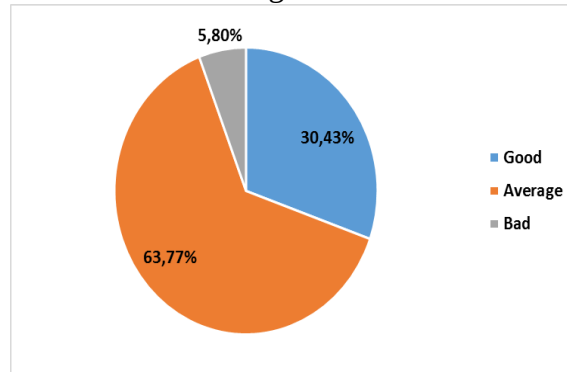
To assess the reliability of the instrument, we employed the test-retest technique, which involves administering the same questionnaire to the same group of participants at two different points in time. This approach allows for the measurement of consistency in responses over time. After collecting the data, we calculated the Pearson Correlation Coefficient using Excel to determine the degree of reliability. The resulting reliability rate was 96.61%, indicating a high level of consistency and accuracy in the instrument’s measurements. This strong reliability score supports the dependability of the findings derived from the questionnaire.

Discussion

Table N° 01: How do you assess your mastery of the technological tools related to learning?

Response	Number	Percentage
Good	21	30.43%
Average	44	63.77%
Bad	4	05.80%

Figure N° 02: How do you assess your mastery of the technological tools related to learning?



The results of Figure 02 show a variation in the levels of control over distance e-learning tools. 63.77% of the students reported having a moderate level of control over these tools, while 30.43% of the students confirmed that they have good control, and 5.80% of the students demonstrated poor control. This variation can be explained by several factors, which can be outlined as follows:

- **Previous experience:** The sample group has prior experience in distance e-learning, having used the Moodle platform in the previous year. This previous experience helped some students build confidence and acquire the necessary skills to use the tools effectively. Meanwhile, it enabled other students to gain a relatively good level of control over these technologies and adapt to them in an acceptable manner.

- **Personal technological skills:** Students with strong technical skills, such as the ability to effectively use computers and the internet, demonstrated a greater ability to control distance e-learning tools. These technical skills make it easier for them to adapt to e-learning tools, enhancing their ability to use them efficiently. In contrast, students who lack these skills may face greater difficulty in handling these tools, which affects their ability to adapt to and use them effectively

- **The nature of technological tools:** The technological tools used in education have an impact on the learning process, as some are easier to use than others. In the case of the studied sample, the tool used is the Moodle platform, which features a simple and accessible interface, making it more user-friendly compared to more complex tools that

may pose a challenge for students who lack technological skills or find them difficult to understand without prior training.

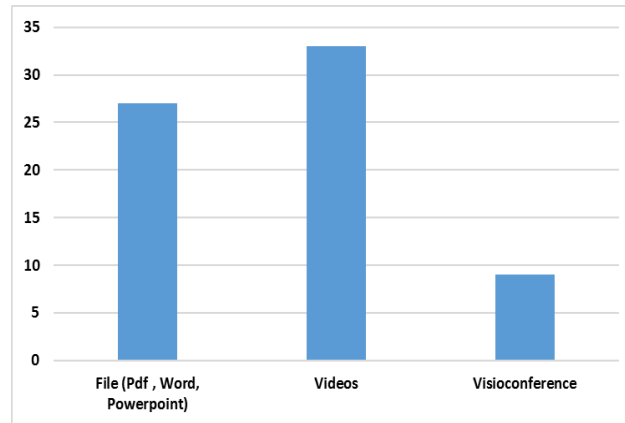
However, some individuals may face difficulty adapting to e-learning platforms, as reflected by a small group of students, accounting for 5.80%. This could be due to their struggle to adjust to the distance learning system or limited access to technology. Therefore, this group requires additional support or specialized training to enhance their efficiency.

Table N° 02: What types of online resources do you prefer?

Type	Number	Percentage
File (Pdf, Word, Powerpoint)	27	39.13%
Videos	33	47.83%
Visioconference	9	13.04%

The results from the Table 02 indicate varying preferences for learning sources, reflecting the presence of different learning styles among students. Learning styles are defined as the complex ways in which, and the conditions under which, learners most effectively perceive, process, store, and retrieve the information they are attempting to learn) (Awla, 2014). Brown defines learning styles as the manner in which individuals perceive and process information in learning situations. Learning styles can be divided into three sub-types: visual, tactile/kinesthetic and auditory (Fuadah, 2023).

Figure N° 03: What types of online resources do you prefer?



The Figure 03 shows that Videos are the most preferred online resource among students, with 33 responses. This result indicates that videos are the most engaging medium for students, possibly due to their ability to simplify and visualize information, making learning more meaningful. Videos provide a rich learning experience as students can watch visual content, which enhances understanding, especially in complex topics. Additionally, videos can contain audio and illustrative images, which enhances engagement and facilitates understanding.

Written documents were ranked second as a preferred tool. This result reflects the heavy reliance on traditionally written materials. Documents are flexible in terms of accessibility, readability, and the ability to return to them at any time. We see that students are more drawn to written documents because they provide precise details and allow them to read the content at their own pace. They also align with traditional learning styles, which may be more comfortable for some of them.

In contrast, Videoconference ranked third in students' choice. Although this type of resource is considered an ideal solution for direct interactive learning, as it allows immediate communication with teachers and other students, it is considered less preferred compared to videos or documents. This can be explained by the fact that interactive sessions require a specific and fixed time from all participants, which may not always be available, in addition to the weak internet connection, which may affect the effectiveness of remote lectures.

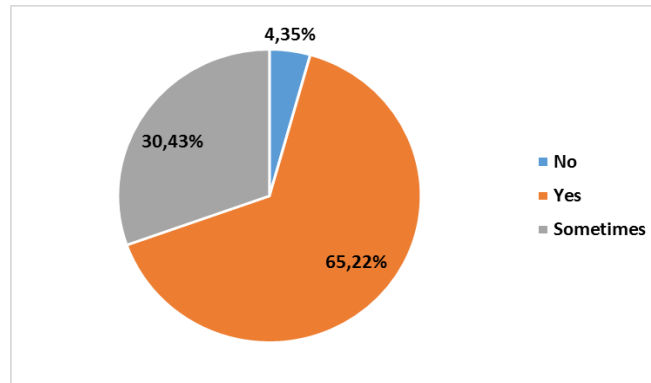
From the results, it appears that the sample of students mainly prefers the visual and auditory learning style, and uses resources that contain visual components, as it enables them to deeply understand the content at different times. Based on this, it is a good idea to develop educational content that includes videos and written files, as these formats meet most of the students' needs.

Table N° 03: Do you think that distance e-learning allows you to learn in accordance with your needs and learning styles?

Response	Number	Percentage
Yes	45	65.22%
No	3	04.35%
Sometimes	21	30.43%

The majority of the sample (65.22%) confirmed that distance e-learning allows them to learn according to their needs and learning styles. This aligns with Constructivist Theory (Satish, 2023; Allen, 2022), which posits that learners actively construct knowledge based on their unique experiences and preferences. The flexibility of distance e-learning supports this process by offering diverse resources and teaching methods that empower students to tailor their learning experiences. Furthermore, this finding resonates with Gardner's Theory of Multiple Intelligences (Subhamol, 2024), as the availability of varied multimedia options and instructional strategies caters to different cognitive strengths, such as visual-spatial, linguistic, or logical-mathematical intelligences. These theories collectively highlight how students have benefited from the adaptability and inclusiveness of the e-learning system.

Figure N° 04: Do you think that distance e-learning allows you to learn in accordance with your needs and learning styles?



Some students responded with "sometimes" at a rate of 30.43%, which can be explained by the varying experiences they encounter. Some find that distance e-learning meets their needs only occasionally. These differences may be related to individual differences among students, the content of educational materials, the teaching style, or a lack of alignment between learning styles and the course design.

The "No" responses were at a very low percentage of 4.35%, which may be due to a lack of appropriate materials or limited interaction with teachers and peers. This also points to specific challenges faced by some students, such as those who prefer hands-on learning and direct interaction without intermediaries, or those who struggle with independent learning.

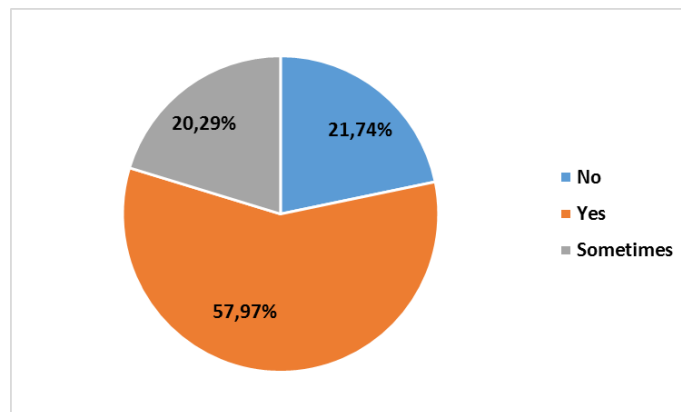
Table N° 04: Do you find the environment suitable for taking distance courses?

Response	Number	Percentage
Yes	40	54.97%
No	15	21.74%
Sometimes	14	20.29%

The Table 04 shows that more than half of the students find the environment suitable for distance studying, indicating their success in creating a conducive learning environment at home or in their preferred spaces, such as quiet, appropriate technology, and

family support, which positively influenced concentration and good interaction.

Figure N° 05: Do you find the environment suitable for taking distance courses?



On the other hand, 21.74% of students answered "No" and 20.29% answered "Sometimes," with these proportions being quite close. This could be due to various factors, such as fluctuating circumstances, noise, surrounding distractions, lack of technological resources, and discomfort. It is worth noting that these constitute challenges may negatively affect the distance e-learning experience and reduce the ability to benefit. Also makes the distance learning experience inconsistent, depending on a variety of personal, technical, and environmental factors.

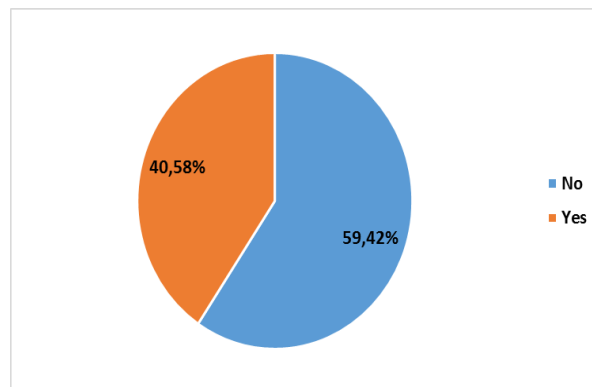
Table N° 05: Are there other fields or specialties that rely on distance learning outside of university education? Please mention them.

Response	Number	Percentage
Yes	28	40.58%
No	41	59.42%

The Table 05 shows that the majority of the sample (59.42%) had not previously experienced distance e-learning in fields other than university education. The reasons for this can be identified in several points, including: weak of motivation to learn and explore other fields, lack of skills that some students lack outside their

academic majors, difficulty adapting to modern learning styles, and being affected by the traditional experience of education.

Figure N° 06: Are there other fields or specialties that rely on distance learning outside of university education? Please mention them.



40.58% of students revealed previous experiences in distance e-learning in fields other than university education, which they identified as language learning, pharmacy courses, and computer science. This results indicates that this category of students is interested in distance e-learning resources in order to develop new skills in various fields, benefiting from its flexibility and low cost.

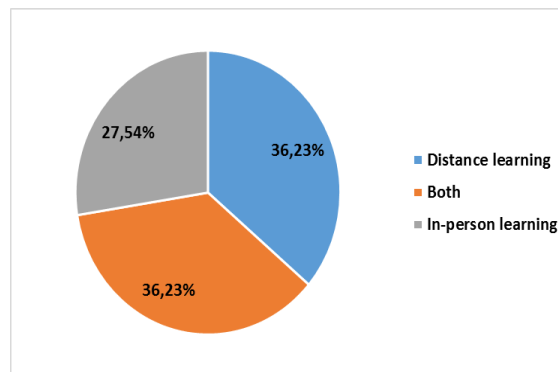
Table N° 06: Do you prefer in-person teaching or distance learning? And why?

Response	Number	Percentage
Distance learning	25	36.23%
In-person learning	19	27.54%
Both	25	36.23%

The table shows that 27.54% of students preferred in-person learning. The reasons mentioned by this group were: the ability to focus more and understand information better through lectures in the department. These results can be interpreted from two angles: the

first confirms that this group appreciates practical learning and the value of direct interaction with teachers and colleagues. The second is that this group resists this type of education because of their fear of change and the transition to distance e-learning.

Figure N° 07: Do you prefer in-person teaching or distance learning? And why?



36.23% of students preferred distance e-learning, indicating an awareness and understanding of the advantage of distance e-learning such as flexibility and the ability to attend lessons anytime and from anywhere. This group justified their choice by saying that “distance learning allows them to shorten distance and reduce commuting costs, especially for students living far from the university”. This result is consistent with the results of (Benali, 2023), which showed that students prefer distance e-learning because its cost is lower compared to face-to-face education.

The same percentage that represents the number of students who prefer both styles together 36,23%, indicating that this category prefers a combination of learning, which is the hybrid trend, which make students benefits from the advantages of both systems. Hybrid learning is a technology-driven, web-based instructional method that allows students to learn both virtually and in traditional face-to-face classrooms. This approach offers a flexible, interactive, and collaborative learning experience (Khatun et al., 2021).

What are the advantages and disadvantages you find in distance learning compared to in-person learning?

The study showed that students' responses regarding the advantages and disadvantages of distance e-learning compared to in-

person learning were diverse and reflected their different experiences. One of the main advantages mentioned by the students was the comfort and flexibility provided by distance e-learning, as they can learn in a quiet and comfortable environment without the need to commute to the university, saving both time and effort. They also highlighted the clarity of the educational content in online lessons and the ability to revisit it at any time, which helps enhance their understanding and retention of information. Additionally, saving money by reducing transportation costs was another significant advantage of distance learning that students greatly appreciate.

On the other hand, students pointed out some technical disadvantages, such as internet connectivity, which can affect the quality of interaction and participation in lessons. They also mentioned issues with sound quality and communication tools, which may hinder their understanding of the content. Our results are consistent with those of (Safi and Bouziane, 2023; Oubbiche and Boukhalfa, 2021; Ramdani, 2022; Slimani and Bentahar, 2019; Zinet, 2022; Khabrara, 2021; Boujmaa and Bechaoui, 2021; Saada and Ben Setti, 2022; Hoadjli and Mehiri, 2015). Overall, despite the significant benefits that distance e-learning offers, students face technical challenges that may require effective solutions to improve the e-learning experience.

Conclusion

The findings from this study reveal an evaluative picture of distance e-learning in Algeria, from the perspectives of students who are directly involved in the learning process. While many students appreciate the flexibility and accessibility that distance education offers, they also face significant challenges related to technological limitations and the lack of face-to-face interaction. Despite these obstacles, a majority of students report that distance learning meets their needs to some extent, especially when resources like videos and written materials are available.

Looking ahead, the findings suggest that a hybrid learning model, one that combines the flexibility of distance learning with the interactive benefits of in-person education, could offer the most effective solution for Algerian students. To optimize the e-learning experience, it is essential to invest in better infrastructure, provide comprehensive training for students, and ensure that technological tools are accessible to all.

This study was conducted within the limits of available human data, specifically focusing on the students who agreed to

collaborate with us. While we had hoped to gather more data, we were unfortunately unable to obtain a larger dataset. This work lays the groundwork based on the data we have collected, and we plan to expand the dataset in future studies to include a larger number of students, enhancing the robustness and applicability of our findings.

Additionally, the study does not account for regional differences in technological infrastructure or internet access, which can significantly influence students' experiences with e-learning. To improve the research, it would be beneficial to include participants from various regions, enabling a more comprehensive analysis of how these factors affect students' perceptions and experiences with online education.

Future studies could also examine e-learning experiences among different student demographics, including postgraduate students, working professionals, or students from remote areas. Furthermore, recommendations for long-term studies to track the evolution of student satisfaction, adaptability, and outcomes with distance e-learning systems should be considered. Finally, research into the impact of emerging technologies like Artificial Intelligence, Augmented Reality and Virtual Reality, and adaptive learning systems on e-learning effectiveness in Algeria could provide valuable insights.

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