

**The Contribution of the Moodle Platform to Enhancing Higher Education:
Batna 1 University as a Model****AMMARI Ali**University of Batna1 (Algeria), ali.ammari@univ-batna.dz**Received:** 03/03/2025**Accepted:** 02/11/2025**Published:** 25/11/2025**Abstract:**

This study aims to examine the role of digital educational platforms particularly the Moodle platform in enhancing higher education in Algerian universities amid rapid technological transformations. Adopting a descriptive approach, the research explores the current state of distance learning in Algeria by analyzing major educational platforms, with special attention to Moodle and its application at the University of Batna 1. The study highlights key features of distance education, including self-directed learning, flexibility, and the continuous availability of information. The findings indicate that the effective use of platforms like Moodle strengthens academic communication, facilitates access to digital content anytime and anywhere, and ultimately contributes to improving the quality of teaching and learning while expanding educational opportunities for students across Algerian universities..

Keywords: Distance Education, Educational Platforms, Moodle Platform, Higher Education**JEL Classification:** I20 ,I23

1. Introduction:

Universities are facing many challenges in the era of the information revolution, challenges that have been imposed by the tremendous technological advancements that have opened new and advanced horizons for the field of education, both in terms of new digital technologies, possibilities, and educational content. Therefore, it has become necessary for academic institutions to adapt to the speed of these developments and adopt educational methods and models that align with modern technological advancements, such as e-learning and digital educational platforms.

Educational platforms have marked a significant turning point in higher education systems, improving their outcomes on one hand, and changing the philosophy and policy of education on the other, in an era characterized by global culture. This mode of education allows for global openness, facilitating direct interaction with information sources accessible to all, and benefiting from them through platforms for distance learning. These platforms aim to deliver digital content easily and efficiently to the largest number of users, which necessitates a shift for students and faculty members from traditional learning to e-learning. This transition faces many challenges and difficulties imposed by the educational environment, making it essential for stakeholders to chart future directions that align with technological developments. Moodle is one of these technologies, striving to unify knowledge and disseminate it on a global level.

Moodle digital educational platforms are among the most important programs adopted by Algerian universities, following recommendations from the Ministry of Higher Education. It is one of the most well-known platforms on Algerian university websites, made available to professors and students for posting lectures and facilitating their transfer to adapt to the new remote education system. Based on the above, the following issue can be raised:

What role do educational platforms play in enhancing higher education at Algerian universities?

To address the main issue, the following points can be considered

- The theoretical framework of distance learning
- The reality of distance learning in Algerian universities
- Using the Moodle platform to enhance higher education: The case of Batna 1 University.

- **Importance of the study** :This study highlights the challenges faced by universities in the era of the information revolution and how educational technologies have evolved to meet current needs. It emphasizes the role of platforms like "Moodle" in enhancing distance education in Algeria, particularly in digital learning. "Moodle" helps improve communication between students and faculty, offering flexible education and enabling access to digital content at any time and from anywhere. The study also stresses the importance of Algerian universities adapting to rapid technological advancements. Such adaptation is necessary to stay relevant and effective in the changing educational environment.

- **Study Methodology:** This study relied on the descriptive method, which was used in all aspects of the study. It addresses the general concepts of distance learning, with a reference to some educational platforms adopted by the Ministry of Higher Education, foremost among them the Moodle platform. The study also mentions the Moodle platform specific to Batna 1 University as an example, to provide a closer look at the technical workings of such platforms.

2. The theoretical framework of distance learning:

Distance learning is one of the most significant modern transformations in the educational process, emerging in response to the developments in digital technology and the widespread use of modern communication tools. With the advancement of these technologies, the concept of distance learning emerged as an alternative to traditional educational systems that require the student and teacher to be in the same location, allowing for learning opportunities from anywhere and at any time.

2.1 Definition of Distance Learning:

Technological changes and developments have contributed to altering many concepts in human life, and one of the areas affected by these changes is the educational process. Several new terms related to education have emerged, including: distance learning, e-learning, open education, flexible learning, and other similar terms.

Distance learning is defined as "an educational process in which teachers and learners are geographically distant from one another, managing their activities in a flexible and almost independent manner. Distance learning takes the form of online education, which is synonymous with E-Learning. It relies on information technology and internet connectivity, and is a part of what is called computer-based collaborative learning"¹.

Deschêne emphasizes that distance learning is "the various efforts to share and exchange information and apply it in developing distance learning strategies, not only by empowering the learner but also by enhancing learning through creativity, communication, and participation, encouraging creative and critical thinking"². Additionally, distance learning is "an educational approach that relies on the use of information and communication technology to deliver electronic lessons and lectures within a structured system aimed at providing a high-quality, efficient, and effective educational service that breaks away from traditional learning models. Modern technologies have contributed to the spread and development of new teaching methods and approaches"³.

Distance learning can be defined as an educational process characterized by flexibility and independence, where teachers and learners are geographically separated. It relies on information and communication technology to deliver lessons and lectures electronically. This approach aims to enhance learning through creativity, communication, and participation, encouraging creative and critical thinking. This makes it a highly efficient and effective form of education, free from traditional learning models.

2.2 Features and Advantages of Distance Learning:

Distance learning has features and advantages that set it apart from traditional, in-person education in terms of general application. This distinction relates specifically to administrative aspects rather than the educational content itself, whether at the pre-

university or higher education level, as the philosophy of distance learning remains the same. The main features and advantages can be summarized as follows:

- **Self-directed learning:** The learner acquires all the information they need and learns in a way that suits them, selecting various methods to achieve this. They rely on themselves to understand and absorb the material and can revisit lessons or exercises multiple times without being bound to a group⁴.
- **Freedom of choice:** Distance learning provides a range of options, allowing both the teacher and the learner the freedom to complete the educational process and achieve its ultimate goal.
- **Diversity of methods:** Technological development has led to the provision of multiple media that support this type of education through the design of dedicated networks and websites adopted by educational institutions, allowing teachers to use various presentation methods⁵.
- **Overcoming challenges:** The remote learner is subject to the same conditions as those applied in in-person education; however, they can overcome some of these, particularly in regard to frequent absences that could otherwise lead to exclusion. The lack of mandatory attendance allows them to study, review lessons, and recall information whenever they want, even if they are ill, by accessing the platform through the internet. This flexibility is essential for achieving this benefit.
- **The learner is in control of their time:** The remote learner can manage and organize their time by setting the pace and choosing the appropriate time for learning and completing educational units and lessons, adapting it to their personal circumstances. This flexibility highlights the advantage of this type of education, allowing students to learn whenever and however they wish.
- **Permanent availability of information:** This feature is one of the most important advantages of this mode of education, as information is continuously available to learners online. Consequently, they do not need to spend time searching for information. Distance education also offers a range of benefits for all participants in the educational process, including teachers, students, and even administrators. This has been made possible by modern technology, which provides remote communication, storage, and digital interaction tools⁶.

2.3 The roles of distance learning in the field of university education

Some of the most important roles that distance learning plays in university education are as follows:

- **Education and lecture transmission:** This is done through satellites, the internet, and conferences, allowing university lectures to be transmitted from one university to another, both within and outside the country⁷.
- **Expanding university education:** This is achieved by utilizing the available means to accommodate a large number of individuals who wish to pursue university education but were unable to do so due to financial, time, or geographical constraints.

- **Reducing financial costs:** This is reflected in the savings on expenses related to traditional universities, such as building construction, equipment, and other necessary resources required for the success of the educational process.
- **Developing scientific research:** Due to the high costs associated with scientific research in universities, the results of these studies can be shared with other universities through the establishment of distance learning institutions. These institutions transmit research findings through their usual methods. Additionally, a form of collaboration can be established between universities to conduct research and avoid duplicating scientific experiments⁸.
- **Standardizing curricula and teaching systems in universities:** Through satellite television broadcasts, it is possible to standardize curricula across different universities by relying on certain courses from one university and disseminating them to other universities.
- **Scientific collaboration and exchange of educational experiences:** Through satellites and the internet, geographical distance can be overcome, facilitating the exchange of scientific expertise between different universities.

3. The most important educational platforms used in Algerian universities:

Algerian universities have undergone a significant transformation in adopting distance learning, especially with the outbreak of the COVID-19 pandemic, which forced educational institutions to adapt teaching methods to meet new challenges. In this context, digital educational platforms have become an essential tool for improving the quality of education and facilitating access to academic content. Among these platforms, Moodle stands out as one of the most widely used options in Algerian universities, offering a flexible learning environment that supports interaction between students and professors. However, the reality of distance learning in Algeria still faces many challenges, such as limited technological infrastructure, which affects the effectiveness of these platforms.

3.1 The reality of distance learning in Algerian universities:

Distance learning is among the effective solutions adopted by countries in response to the growing demand for education, especially in geographically isolated areas, amidst the ongoing development of this educational method. The University of Continuing Education has evolved in terms of the means used to support distance learning, from correspondence courses to the use of online platforms for broadcasting lessons. Algeria has adopted this method, transitioning from correspondence courses to the use of educational platforms in higher education⁹, starting with the University of Continuing Education's experience in 1990 and leading up to the national distance master's program in 2016, which was embraced by five university hubs. The biggest challenge emerged during the COVID-19 pandemic, when distance learning through digital media was relied upon to complete lessons.

The spread of the COVID-19 pandemic led to global restrictions on activities, movement, university operations, and transportation. In Algeria, a lockdown was imposed, along with the suspension of all commercial and professional activities, and the closure of schools and universities as precautionary health measures. This created the need to find an alternative to ensure the continuity of education, through electronic platforms and television channels, in what is known as distance learning.

The 2019/2020 academic year was exceptional by all standards across all Algerian universities, due to the restrictions imposed by the COVID-19 pandemic. For instance, Batna 1 University, one of the largest universities in Algeria, which typically receives thousands of new students each year and graduates large cohorts at the Bachelor's and Master's levels¹⁰, found itself facing a real challenge in completing lessons and providing a means of communication between students and professors supervising Master's theses.

3.2 Most important educational platforms used in Algerian universities:

The current knowledge and technological advancements have necessitated fundamental and comprehensive changes in teaching and learning methods. Online education has emerged as one of the most effective solutions to the spatial and temporal challenges of traditional education. The Algerian experience in e-learning is relatively young, with the first signs of using online platforms in education appearing in 2007, when Algerian universities began to adopt this type of learning and integrate various e-learning platforms. These platforms have facilitated the implementation of e-learning as a solution to partially address the issues associated with the traditional learning environment. Some of the platforms currently used in higher education within the Algerian university system include the following:

- **Sharleman Platform:** This is a system that supports the management of educational content and facilitates various elements of the learning process online, utilizing its different services (such as news, forums, course subscriptions, etc.). Developed by the Sharleman company, this platform specializes in the educational management of universities, faculties, and institutes. The Algerian university system adopted this platform, particularly because it supports the Arabic language and has a user-friendly interface. It was acquired by the Ministry of Higher Education in 2003, and all universities were equipped with the necessary technological resources to enable its implementation.
- **Ifaad Platform:** This is a system for managing educational content and serves as a comprehensive platform for both open education and distance learning. It provides various tools, including those used for assessing learners, sharing information, and delivering educational content. Ifaad also manages multiple aspects of the learning process¹¹, such as communication tools and techniques, as well as curricula. It is one of the most widely used platforms in Algerian universities, especially at the University of Continuing Education, which has approximately 51 centers across all Algerian provinces, in addition to seven regional centers. Through this platform, courses in Business Law, Economic, and International Relations are offered.
- **Coursera Platform:** Coursera is one of the most well-known global platforms offering courses in various fields, including sciences and specialized subjects. It offers over 121 courses in areas such as "Machine Learning," "Business Analytics," and more. The courses are presented in an accessible style with a predominantly academic approach, making them very similar to the lessons provided in prestigious universities. The platform has 2.1 million registered users and provides certificates to learners¹².

- **Udemy Platform:** Udemy is one of the most popular higher education platforms, contributing to the training and education of over 80,000 visitors daily. More than 19,000 instructors and teachers participate in its programs¹³.

- **Moodle Platform:** Moodle is an open-source software package that provides an electronic environment for managing courses. It is a relatively modern system, designed in 1999 by computer engineer Martin Dougiamas to support educational activities. It currently serves 40,000 trainees and is used by 118 countries, including Algeria.

3.2 Using the Moodle Platform in Algerian Universities: Towards Enhancing Digital Education and Academic Communication

With the rapid advancement of technology in higher education, e-learning platforms have become essential tools for enhancing communication between professors and students and facilitating access to educational content. Among the most prominent of these platforms in Algerian universities is Moodle, which is seeing increasing adoption across various academic institutions. The following table aims to illustrate the extent of Moodle's use in some Algerian universities, highlighting differences between these institutions in terms of the number of registered users, available courses, and assessment methods¹⁴. This reflects a shift towards digital education and the development of the educational process.

Table 1. Statistics on the use of the Moodle platform in a sample of Algerian universities

University	Number of registered students	Number of faculty members	Number of available courses	Daily login rate	Percentage of active courses	Number of uploaded files	Number of online tests
Batna 1 University	25,000 students	1,200 professors	1,500 courses	20000 logins	75	30000 files	500 test
Algiers 2 University	30000 students	1400 professors	2000 courses	25000 logins	80	35000 files	650 tests
Constantine 3 University	20000 students	1000 professors	1200 courses	15000 logins	70	25000 files	400 tests
Oran 1 University	28000 students	1300 professors	1800 courses	22000 logins	78	32000 files	550 tests
Tlemcen University	18000 students	900 professors	1000 courses	12000 logins	68	20000 files	350 tests

Source: Fatima Zahra Bouazza, **Moodle Platform and Its Uses in Higher Education**, University Thought Publishing, Algeria, 2022, P103.

The table shows variation in the use of the Moodle platform across Algerian universities, with the University of Algiers 2 attracting the highest number of registered students and achieving the highest daily login rate, indicating significant reliance on the platform as a primary educational tool. On the other hand, the number of faculty members and active courses vary between universities, with institutions like Oran 1 and Algiers 2 offering a larger number of courses and continuously updating materials, providing students with a variety of digital content and easy access to resources. The number of uploaded files and online tests demonstrates the expansion of digital assessment, as universities such as

Algiers 2 and Oran 1 employ multiple online exams, enhancing the efficiency of the educational process. Overall, the table reflects a widespread and growing reliance on the Moodle platform in Algerian universities as part of the shift towards digital education.

4. The use of the Moodle platform to enhance higher education: The University of Batna 1 as a model

The Moodle platform is considered one of the advanced educational tools that contribute to enhancing the higher education experience. At the University of Batna 1, this platform has been adopted to improve communication between professors and students, as well as to provide an interactive learning environment that supports self-directed learning. Through the Moodle platform, students can access educational content in a flexible and efficient manner, which contributes to improving the quality of education.

4.1 The Moodle platform at the University of Batna 1

The University of Batna 1 is considered one of the largest universities in Algeria. Each year, it welcomes thousands of new students and graduates a large number at the bachelor's, master's, and doctoral levels. Given the advancements in modern technologies, especially in the field of education, the university found it necessary to adopt a blended learning model that combines remote and in-person education. This has been implemented through the creation of the Moodle platform across various faculties and institutes, as shown in the following diagram

Figure (1): The Distance Learning Page at Batna 1 University



Source: The official website of Batna 1 University <https://ead.univ-batna.dz>

This system involves the use of online platforms that can be accessed by students and professors to deliver and receive lessons. It is considered an alternative to traditional face-to-face education. The University of Batna 1 is one of the first universities to adopt this educational approach. It has created an online learning platform that serves as an alternative to traditional face-to-face education¹⁵.

4.2 Tools and Spaces of the Moodle Platform at Batna 1 University

The Moodle platform at Batna 1 University is one of the modern educational tools that offers a variety of e-learning content for all academic disciplines. The platform includes a range of tools and systems that support the educational process, such as lesson design, forums, and the chat and messaging systems. It also provides different spaces with varied functions to meet the needs of the educational process. Some of these spaces are dedicated to communication between the parties involved in the educational process (dialogue management spaces), while others focus on the pedagogical aspect. There are also other spaces dedicated to assessment. The following table presents the main spaces and services provided by the Moodle platform at Batna 1 University.

Table 2: Types of Digital Spaces and Their Uses in E-Learning

space	Description	Function/Services
Dialogue Management Spaces	Spaces Dedicated to discussing topics between students, professors, and others interested parties	Forum, chat room (public and private)
Pedagogical Spaces	Used for delivering lectures, practical lessons, and assignment	Lesson creation, task assignment, student testing
Assessment Spaces	Dedicating to collecting feedback and measuring opinions and viewpoints	Collecting answers and analyzing results (multiple-choice questions)

Source: Prepared by the researcher

The platform provides a comprehensive learning environment that supports various aspects of the educational process. The spaces vary between those dedicated to communication and dialogue management between students and professors, such as forums and chat rooms, and pedagogical spaces that focus on delivering lectures, assigning tasks, and conducting tests¹⁶. In addition, there are assessment spaces that help collect feedback and analyze students' results. We will now move on to further detail these spaces and services based on what the platform offers, which enhances student interaction with the educational content and improves the effectiveness of assessment and testing

4.3 The main key services provided by the Moodle platform at Batna 1 University

The Moodle platform at Batna 1 University offers a range of services that enhance the learning and teaching experience for both students and instructors. These services are designed to support various aspects of the educational process.

- **Spaces dedicated to managing dialogue:** These are spaces where students can discuss a specific topic with their peers, professors, and other interested parties. Forums.

Figure 2: Dialogue Management Spaces

Source: The official website of Batna 1 University <https://ead.univ-batna.dz>

They can be used for multiple purposes:

* **Public spaces:** These are open to all members of the Moodle platform, including students, professors, and staff.

* **Private spaces:** These are spaces that can only be accessed by a specific group of people, such as a classroom, a group of students working on a project, or a group of professors collaborating on scientific research.

- **Discussion forums:** What distinguishes this space is that it is a public space available to all users, including professors and learners.
- * **Chat room:** The communicator (whether a teacher or an administrator) can make these rooms private for a specific group of learners, for example, or they can leave them open and accessible to everyone. This means that there are two types of chat rooms: public rooms and private rooms.
- **Pedagogical spaces:** These are spaces primarily used for delivering lectures, practical lessons, and assignments, as well as assigning tasks to students. Additionally, the platform allows the teacher to assess their students and test their understanding of the course content.
- * **Creating lessons:** Moodle provides dedicated spaces where teachers can add their lectures, both theoretical and practical lessons. They can upload files in various formats such as Word, PDF, and others, which students can download and read. The platform also allows teachers to hide files from their students and make them available at a specific time.
- * **Assigning tasks to learners:** In turn, the teacher can assign tasks or assignments to students, which they complete and submit within a dedicated space. The teacher can set a deadline for submitting the assignment (including the specific date and time). If the student submits their assignment after the deadline, it is considered late and will be handled according to the teacher's specified instructions.
- * **Testing students:** The platform allows the teacher to assess students' understanding through a variety of questions, depending on the nature of the lesson, the teacher's style in writing questions, or the objectives the teacher aims to achieve. The questions provided by Moodle can take several forms:
 - **Pre-lesson tests:** These are used before students begin a lesson to assess their initial knowledge and understanding of the topic. This type of test is called a preliminary test.
 - **Post-lesson tests:** These are used after students have completed the lesson to assess their understanding and retention of the content. This type of test is called an instructional test.
 - **Exit tests:** These are used after students have completed the lesson or unit to assess their overall learning outcomes. This type of test is called an exit test.
- **Assessment spaces:** These are spaces dedicated to collecting feedback and measuring opinions and perspectives. Teachers can use them, for example, to improve the teaching process and communicate with students. They consist of a set of questions with multiple answer options. The results are gathered by compiling similar answers and calculating their percentages.

5. Conclusion:

The study concludes that Moodle has become a key pillar in the digital transformation of Algerian universities, providing both students and teachers with a flexible and interactive learning environment. Its implementation has enhanced access to educational resources and encouraged more autonomous and collaborative learning practices. However, despite these advantages, the platform's overall effectiveness remains limited by persistent structural and technical challenges. Many institutions continue to face issues such as unstable internet connections, insufficient training programs, and inadequate technical support. Although students and teachers recognize Moodle's potential, its actual utilization still falls short of expectations due to these constraints. Therefore, the study emphasizes the importance of strengthening digital infrastructure, improving digital literacy, and ensuring ongoing institutional support to maximize Moodle's educational benefits. Ultimately, the long-term success of e-learning in Algeria will depend on sustained investment, strategic planning, and innovation within higher education institutions. This study has reached the following result:

- * In many Algerian universities, Moodle provided students with easier access to course materials, assignments, and recorded lectures, allowing them to study at their own pace and manage learning despite geographical or time constraints.
- * Both students and professors across Algerian universities expressed generally positive perceptions of Moodle, considering it a useful and modern tool that complements traditional classroom teaching.
- * Many Algerian universities still face serious limitations such as unstable internet connections, insufficient computer equipment, and low digital capacity, which hinder the full integration of Moodle.
- * Several universities provide little follow-up or maintenance for Moodle systems, resulting in technical errors, outdated content, and delays in solving users' issues.
- * Teachers found Moodle particularly effective for organizing lessons, distributing documents, creating online assessments, and tracking student progress, which enhanced teaching quality and transparency.

- Recommendations:

- * Algerian universities need to strengthen their technological base by providing stable internet connections, updated computer labs, and well-maintained servers to support continuous Moodle access.
- * Continuous training for both professors and students should be implemented to enhance their digital competencies and help them use Moodle effectively for teaching and learning activities.
- * Each university should create a specialized e-learning support unit responsible for maintenance, user assistance, and system updates to ensure smooth operation of Moodle platforms.
- * Teachers should be motivated to use Moodle not only for uploading lessons but also for interactive teaching, such as online discussions, quizzes, and collaborative assignments.
- * The Ministry of Higher Education should develop a clear national framework to regulate and promote e-learning, ensuring consistent Moodle integration across Algerian

universities.

* Algerian universities should collaborate by sharing digital content, training materials, and successful experiences to build a unified and efficient e-learning ecosystem at the national level.

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