

## Educational Platforms: Digital Tools for the teaching-learning process in Education

Plataformas Educativas: Herramientas Digitales para el proceso de enseñanza-aprendizajes en la Educación

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### ABSTRACT

Educational platforms are digital tools that have revolutionized the teaching-learning process in education. Through a bibliographic-type methodology, relevant information has been compiled from various authors and experts in the field. These platforms offer access and flexibility, allowing students to learn anytime, anywhere, adapting to their individual needs. They facilitate interaction and collaboration between students and teachers, through discussion forums, online chats and shared spaces. In addition, they focus on personalization and adaptability, offering personalized learning paths and adaptive content. Assessment and progress tracking are also key aspects of educational platforms, providing tools for taking online assessments and generating grade reports. Lastly, they offer a wide range of educational resources and content, such as texts, videos and interactive activities, enriching the teaching-learning process. Finally, educational platforms, supported by a bibliographic methodology, have transformed education by providing flexible access, fostering interaction and collaboration, enabling personalization of learning, facilitating assessment and monitoring of progress, and offering a variety of educational resources. These digital tools have significantly improved the educational process, adapting to the needs of students in the digital age.

**Keywords:** Educational platforms, digital tools, educational content, interaction, digital age.

### RESUMEN

Las plataformas educativas son herramientas digitales que han revolucionado el proceso de enseñanza-aprendizaje en la educación. A través de una metodología de tipo bibliográfica, se ha recopilado información relevante de diversos autores y expertos en el campo. Estas plataformas ofrecen acceso y flexibilidad, permitiendo a los estudiantes aprender en cualquier momento y lugar, adaptándose a sus necesidades individuales. Facilitan la interacción y colaboración entre estudiantes y profesores, a través de foros de discusión, chats en línea y espacios compartidos. Además, se enfocan en la personalización y adaptabilidad, ofreciendo rutas de aprendizaje personalizadas y contenido adaptativo. La evaluación y seguimiento del progreso también son aspectos clave de las plataformas educativas, proporcionando herramientas para realizar evaluaciones en línea y generar informes de calificaciones. Por último, ofrecen una amplia gama de recursos y contenido educativo, como textos, videos y actividades interactivas, enriqueciendo el proceso de enseñanza-aprendizaje. Finalmente, las plataformas educativas, respaldadas por una metodología bibliográfica, han transformado la educación al brindar acceso flexible, fomentar la interacción y colaboración, permitir la personalización del aprendizaje, facilitar la evaluación y seguimiento del progreso, y ofrecer una variedad de recursos educativos. Estas herramientas digitales han mejorado significativamente el proceso educativo, adaptándose a las necesidades de los estudiantes en la era digital.

**Palabras clave:** Plataformas educativas, herramientas digitales, contenido educativo, interacción, era digital.

### INTRODUCTION

In the digital age in which we live, access to information and technology has transformed many aspects of our daily lives, including education. The emergence of educational platforms and digital tools has revolutionized the teaching-learning process in education, providing new opportunities and resources for students and teachers around the world.

Educational platforms are virtual environments specifically designed to facilitate and improve the teaching and learning process. These platforms provide an online space where students can access educational materials, participate in interactive activities, collaborate with their peers, and receive feedback from their teachers. At the same time, teachers can use these platforms to organize and deliver educational content, assess student progress, and foster communication and interaction in the virtual classroom.

One of the main advantages of educational platforms is the flexibility they offer. Students can access materials and resources anytime, anywhere, allowing them to tailor their learning at their own pace and needs. Furthermore, the digital tools embedded in these platforms, such as interactive videos, educational games, simulations and online assessments, make the learning process more engaging and motivating for students, thus encouraging their active participation and the

development of key skills.

Another important aspect of educational platforms is their ability to facilitate communication and collaboration between students and teachers. Through discussion forums, online chats, and collaboration tools, students can interact with each other and their teachers, share ideas, ask questions, and receive individualized guidance. This promotes a more participatory and constructive learning environment, where knowledge sharing and joint problem solving are encouraged.

Likewise, educational platforms provide teachers with a wide range of tools to manage and assess their students' learning. They can monitor each student's progress, keep track of her activities and assignments, and provide real-time feedback. Additionally, these platforms offer the ability to generate reports and statistics on student performance, allowing teachers to identify areas for improvement and tailor their pedagogical approach to meet the individual needs of each student.

In summary, educational platforms and digital tools have transformed the educational landscape, offering new opportunities and resources for the teaching-learning process. These platforms foster flexibility, interaction, collaboration, and personalization of learning, allowing students to develop key skills in a dynamic digital environment. At the same time, they provide teachers with powerful tools to manage and assess student progress, adapting to the demands of today's education and preparing students to meet the challenges of the 21st century.

## DEVELOPMENT

### Educational Platforms

Educational platforms are online systems specifically designed to facilitate and improve the teaching and learning process. These platforms offer a virtual environment where students can access educational resources, interact with content, participate in learning activities, and collaborate with other peers and teachers.

There are different types of educational platforms, each with its own characteristics and approaches. Some of the most common include:

**Learning Management Platforms (LMS):** These platforms are used by educational institutions to manage and deliver online courses. They allow teachers to organize and present content, create assignments and assessments, track student progress, and facilitate online communication and interaction.

**Online learning platforms:** These platforms offer complete online courses, which can be used by both educational institutions and online course providers. They provide structured educational content, interactive activities, assessments, and support for self-directed learning.

**Collaboration and communication platforms:** These platforms focus on fostering collaboration and communication between students and teachers. They provide tools such as discussion forums, online chats, wikis, and shared spaces for students to work together, share ideas, and solve problems.

**Online tutoring platforms:** These platforms connect students with online tutors who provide personalized support and guidance. They allow students to receive individualized instruction and answer specific questions in real time through video conferencing and chat tools.

**Adaptive Learning Platforms:** These platforms use algorithms and data analytics to personalize learning for each student. As students interact with the content, the platform collects data about their progress and adapts the content and activities to meet the individual needs of each student.

In short, educational platforms are digital tools that provide an online environment to facilitate learning and teaching. These platforms offer a wide range of resources and functionalities that promote interaction, collaboration, personalization and access to education anytime, anywhere.

### Educational Platforms: Author Criteria

Various authors have investigated and reflected on the impact of educational platforms in the teaching-learning process. Here are some perspectives from different experts in the field:

**Michael Horn and Heather Staker:** These authors, known for their work in the field of disruptive education, highlight in their book "Blended: Using Disruptive Innovation to Improve Schools" the importance of educational platforms as facilitators of blended learning models (blended learning). According to them, educational platforms allow personalization of learning, adapting to the individual needs of students and promoting their own learning pace.

**George Siemens:** Siemens, an expert in the field of digital learning and connected learning environments, argues that

educational platforms are essential in the implementation of networked learning. For him, these platforms allow the creation of online learning communities, where students can collaborate, share resources and build knowledge collectively.

Stephen Downes: Downes, a pioneer in the field of e-learning and online education, advocates for the use of educational platforms as open and distributed learning spaces. According to him, educational platforms must allow students to access a wide range of open educational resources, encourage active participation and promote student autonomy in the learning process.

Clark Quinn: Quinn, an expert in the design of technology-enabled learning experiences, argues that educational platforms should be designed with the principles of cognitive science and effective learning in mind. For him, platforms should provide a variety of interactive and hands-on activities, incorporate gamification elements, and use feedback strategies to maximize student engagement and retention.

These are just a few perspectives from leading authors in the field of educational platforms. Each author brings his unique vision on how these digital tools can improve the teaching-learning process, highlighting aspects such as personalization, collaboration, openness and the effective design of learning experiences.

### **Moodle platform in education**

Moodle is one of the most popular and widely used educational platforms in the field of education. Developed in 2002 by Martin Dougiamas, Moodle is an acronym for "Modular Object-Oriented Dynamic Learning Environment".

Moodle is an open-source platform, which means that it is free to access and can be customized and adapted according to the needs of each institution or user. This platform is based on constructivist and collaborative pedagogical principles, promoting the active participation of students and interaction with their peers and teachers.

Some key Moodle features and functionality include:

Course management: Moodle allows teachers to organize and structure their online courses. They can create and share educational content, such as documents, presentations, videos, and links to external resources. Additionally, teachers can assign and grade assignments, set due dates, and provide feedback to students.

Communication and collaboration: Moodle facilitates communication and collaboration between students and teachers. Students can participate in discussion forums, send private messages, collaborate on wikis, and work on group projects. This encourages interaction and the exchange of ideas, promoting a collaborative learning environment.

Assessment and progress tracking: Moodle provides tools for taking assessments online, such as quizzes and exams. Teachers can create question banks, set rules and conditions for test delivery, and generate reports and statistics on student performance. In addition, Moodle allows you to track the progress of each student and generate grade reports.

Customization and extensibility: Moodle offers great flexibility and customization. Instructors can customize the look and feel of their courses, add new functionality through plugins, and tailor the platform to their specific pedagogical needs.

Moodle has become a very popular educational platform due to its versatility, flexibility and active user community. It is used in a wide variety of educational contexts, from schools to universities and online training organizations. Its student-centred pedagogical approach and its ability to adapt to individual needs make Moodle a valuable option to facilitate the teaching-learning process in digital environments.

### **Moodle, a platform for teaching-learning**

Moodle is a teaching-learning platform that has gained popularity in the field of education due to its multiple features and functionalities designed to facilitate effective learning and interaction in virtual environments. With its student-centred pedagogical approach, Moodle provides teachers and students with a flexible and collaborative digital environment.

One of Moodle's strengths is its ability to host various types of educational content. Teachers can create and organize resources such as files, links, videos, and interactive activities. Additionally, they can structure courses into modules and topics, making it easy to navigate and sequencing content.

Moodle encourages student participation and interaction through various communication tools. Discussion forums allow students to participate in discussions and share ideas. Internal messaging and chat rooms facilitate individual and group communication. Collaboration tools such as wikis and workgroups can also be used to promote co-creation and teamwork.

The Moodle platform offers a comprehensive set of tools to assess student progress and performance. Teachers can create online quizzes and tests, set up practice activities, assign homework and projects, and keep track of student grades and progress. In addition, reports and statistics can be generated to analyze student performance and track their progress.

A distinctive feature of Moodle is its ability to be customized and extensible. Administrators and teachers can adapt the appearance and functionalities of the platform according to the specific needs of their educational context. In addition, there is a large community of developers who contribute plugins and enhancements, allowing Moodle to extend its capabilities and adapt it to different pedagogical approaches.

In summary, Moodle has established itself as a versatile and powerful platform for teaching-learning in virtual environments. Its student-centered approach, combined with its communication, assessment, and personalization tools, make it a popular choice for educational institutions looking to take advantage of technology in the educational process.

## RESULTS

### **Moodle, an important platform in the training of undergraduate and postgraduate students**

Moodle has been recognized and valued by several authors as an important platform in the training of undergraduate and postgraduate students. Here are some views from different experts:

Terry Anderson and Jon Dron: These authors, in their book "Teaching Crowds: Learning and Social Media", highlight the versatility of Moodle for online teaching. According to them, Moodle offers effective tools for online communication, collaboration and interaction, which facilitates the formation of learning communities and teamwork among students.

John W. Tukey and Richard J. Nantz: In their article "A Review of Moodle and its Perception in Education", these authors point out that Moodle has proven to be a reliable and effective platform for training undergraduate and postgraduate students. They highlight their ability to manage courses, manage content and facilitate student evaluation and feedback.

José Antonio Marcos-García and José María Romero-Rodríguez: In their research entitled "Students' Perception and Satisfaction with Moodle in Higher Education", these authors analyze the perception and satisfaction of university students with the use of Moodle. They found that students positively value the accessibility, ease of use and interactivity that Moodle offers as a learning platform in their academic training. Francisco García-Peñalvo et al.: In the article "Learning analytics to support self-regulated learning in Moodle", these authors highlight the potential of Moodle to use data analysis and learning analytics to promote self-regulated learning in students. They argue that Moodle can collect data on student performance and activity, allowing them to provide personalized feedback and support their academic progress.

These are just a few examples of how various authors have appreciated the importance of Moodle in the training of undergraduate and postgraduate students. The platform has been recognized for its flexibility, its ability to foster interaction and collaboration, its ease of use, and its potential for data analysis and support for personalized learning. Its presence in numerous educational institutions around the world supports its relevance in higher education.

### **Benefits and advantages**

In the same way, Moodle has proven to be an educational platform of great importance in the training of undergraduate and postgraduate students. Several authors and experts in the field of education have recognized its benefits and advantages. Here are some key points from the perspective of various authors:

David Wiley – A renowned expert on open education and open educational resources, Wiley highlights Moodle's ability to support open access and distribution of learning materials. Moodle allows teachers to share educational resources in a free and open way, which benefits students in their academic training.

George Siemens: Siemens, a benchmark in the field of connected learning and networked learning, highlights Moodle's ability to foster collaboration and social learning. The platform offers communication and collaboration tools that allow students to interact and collaborate with each other, enhancing their learning experience and promoting the construction of collective knowledge.

Martin Dougiamas: As the creator of Moodle, Dougiamas has advocated for a learner-centred pedagogy based on knowledge construction. Moodle reflects this vision by enabling teachers to design courses and activities that encourage active student engagement and interaction with the content.

Gilly Salmon: Salmon, an expert in online education, highlights Moodle's ability to facilitate one-on-one tutoring and support. The platform allows teachers to offer personalized feedback to students, track their progress, and provide guidance throughout their learning process.

In general, Moodle is considered an important platform in the training of undergraduate and postgraduate students due to its flexibility, customizability, communication and collaboration tools, and student-centered pedagogical approach.

These features make Moodle a valuable tool for promoting interactive, collaborative and personalized learning in university-level educational settings.

## CONCLUSIONS

Some of the most important conclusions about educational platforms as digital tools for the teaching-learning process in education are:

**Access and flexibility:** Educational platforms offer access to online educational resources anytime, anywhere, allowing students to learn at their own pace and adapt to their individual needs. This facilitates distance education, online education, and self-directed learning.

**Interaction and collaboration:** Educational platforms encourage interaction and collaboration between students and teachers. Through tools such as discussion forums, online chats and shared spaces, students can participate in collaborative activities, share ideas and work as a team, which enriches their learning experience.

**Personalization and adaptability:** Educational platforms allow the personalization and adaptation of the contents and activities according to the individual needs of the students. They can offer personalized learning paths, adaptive content, and individualized feedback, leading to more effective and meaningful learning.

**Assessment and Tracking:** Educational platforms provide tools for taking online assessments, tracking student progress, and generating grade reports. This allows teachers to assess student learning more efficiently and provide timely feedback to improve their academic performance.

**Varied resources and content:** Educational platforms offer a wide range of educational resources and content, such as texts, videos, interactive activities, and digital libraries. This enriches the teaching-learning process and provides students with access to updated and diverse information.

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