Revista Digital de Investigación y Postgrado
ISSN: 2665-038X
ISSN-L: 2665-038X
omar.escalona@iesip.edu.ve
Instituto de Estudios Superiores de Investigación Y Postgrado
República Bolivariana de Venezuela

Cazenga Francisco, Custódio
Educación a distancia: plataformas digitales y autonomía del alumnado del siglo XXI
Revista Digital de Investigación y Postgrado, vol. 6, no. 12, 2025, July-December, pp. 111-119
Instituto de Estudios Superiores de Investigación Y Postgrado
San Cristóbal, República Bolivariana de Venezuela

DOI: https://doi.org/10.59654/exkthg32

Available in: https://www.redalyc.org/articulo.oa?id=748582382006

Distance education: digital platforms and student autonomy of the 21st century

Educación a distancia: plataformas digitales y autonomía del alumnado del siglo XXI

Custódio Cazenga Francisco
https://orcid.org/0000-0001- 9889-1128
Luanda / Angola

Received: april / 1 / 2025 **Accepted:** april / 26/ 2025

How to cite: Francisco, C. C. (2025). Distance education: digital platforms and student autonomy of the 21st century. *Revista Digital de Investigación y Postgrado*, 6(12), 105-112. https://doi.org/10.59654/exkthg32

* PhD in Educational Sciences from ACU (Absolute Christian University). Master's in Biomedical Sciences (Occupational Safety) from UNIXAVIER. Postgraduate (Lato Sensu) in Hospital Administration from Universidade Nova Lisboa. Medical degree from Universidade Jean Piaget de Angola. Contact email: custodiofrancisco29.8@hotmail.com

Abstract

This article aims to reflect on distance education: digital platforms and student autonomy in the 21st century. The present text consists of a narrative literature review, using scientific databases to encompass proposed authors. The intention was to bring relevant content to the theme, focusing on various theories. An analytical and bibliographical qualitative approach was conducted on the subject through books, articles, and video classes from databases such as Pepsic, Scielo, and Google Scholar. Subsequently, an inclusion of the most relevant materials was performed, excluding content that did not pertain to the theme. It is concluded that digital platforms have great potential to transform 21st-century distance education, promoting student autonomy and transforming the role of teachers to maximize the benefits of the teaching-learning process.

Keywords: Distance education, digital platforms, student autonomy.

Resumen

Este artículo tiene como objetivo reflexionar sobre la educación a distancia: plataformas digitales y autonomía discente en el siglo XXI. El presente texto consiste en una revisión narrativa de la literatura, utilizando bases de datos científicas para abarcar autores clave. El propósito fue recopilar contenidos relevantes sobre el tema, con enfoque en diversas teorías. Se realizó una investigación analítica y bibliográfica de enfoque cualitativo, consultando libros, artículos y videoclases de bases de datos como Pepsic, Scielo y Google Académico. Posteriormente, se seleccionaron los materiales más pertinentes, descartando aquellos no relacionados con la temática. Se concluye que las plataformas digitales tienen un gran potencial para transformar la educación a distancia del siglo XXI, fomentando la autonomía de los estudiantes y redefiniendo el rol del docente para maximizar los beneficios del proceso de enseñanza-aprendizaje.

Palavras-chave: Educación a distancia, plataformas digitales, autonomía del estudiante.

Introduction

Digital platforms have become fundamental technological resources for online distance education, providing essential tools for planning, delivering, and managing teaching-learning processes while engaging teachers, content developers, tutors, and other professionals.

Given that Distance Education: Digital Platforms and Student Autonomy in the 21st Century (*Educação a distância: Plataformas digitais e autonomia discente do século XXI*) presents significant challenges for educational policies—particularly in developing countries where published data remains scarce—the author was motivated to investigate this topic to advance knowledge in the field.

This study aims to: (1) generate new knowledge, (2) collect previously unavailable data to address

existing gaps, (3) enhance educational practices, and (4) contribute to scientific progress. The research holds particular significance as it examines core teaching-learning processes in education. Consequently, this investigation seeks to answer: "What is the impact of digital platforms and student autonomy on 21st-century distance education?" The study's primary objective is to analyze the role of digital platforms and learner autonomy in contemporary distance education.

Theoretical foundation

Digital platforms as tools for active and collaborative learning

Digital platforms play a significant role in promoting active pedagogical practices, such as problem-based learning (PBL) and gamification—tools that encourage student engagement and active participation in the educational process. Problem-based learning, for example, is characterized by solving real-world issues that stimulate students' critical thinking and analysis. In this context, digital platforms are used to provide resources that facilitate interaction and collaboration among students, creating a dynamic and interactive learning environment. As França (2021, p. 2021) highlights, "the use of digital platforms in higher education environments has proven effective for promoting learner autonomy, especially when combined with active methodologies like problem-based learning." This quotation demonstrates how well-integrated digital platforms can transform educational settings, empowering students to become protagonists of their learning.

Moreover, gamification—a pedagogical approach that uses game elements to engage students—also benefits from digital platforms. According to Santos et al. (2020, p. 88), "digital platforms offer a range of tools that enable gamification implementation, enhancing student motivation and fostering immersive learning." This statement reflects how digital platforms can be configured to integrate gamification, stimulating students through challenges, rewards, and progression systems, thereby making learning engaging and interactive.

Digital platforms are equally essential for promoting collaboration among students, a cornerstone of modern pedagogical practices. As Portes et al. (2024, p. 112) note, "educational social networks and discussion forums within digital platforms function as interaction spaces, allowing students to share ideas, debate concepts, and collaboratively solve problems." These collaborative tools have proven vital for creating inclusive, participatory learning environments where peer-to-peer knowledge exchange is encouraged.

França and Freitas (2022, p. 145) assert that "Digital Information and Communication Technologies (DICT) have the power to redefine student interactions, providing not only content access but also opportunities for collaborative knowledge construction." This observation underscores the importance of DICT, including digital platforms, in collaborative knowledge-building, illustrating how networked learning can be facilitated by these tools as students work together, share information, and develop competencies.

Thus, digital platforms demonstrably serve a fundamental role in creating active, collaborative learning environments. They not only provide resources for problem-based learning and gamification but also offer spaces for peer collaboration—ultimately fostering essential 21st-century learning competencies.

Technology and accessibility in the teaching process

Digital platforms have proven essential in promoting accessibility in education, enabling students with diverse educational needs to access personalized resources tailored to their specific requirements. As França (2021, p. 105) states, "digital technologies, when properly utilized, facilitate the personalization of teaching, allowing each student to access content according to their individual needs and learning paces." This quotation emphasizes digital platforms' capacity to adapt instruction to each student's unique characteristics, ensuring inclusive and accessible education that respects individual differences and enhances learning.

Furthermore, digital inclusion plays a fundamental role in fostering learner autonomy, enabling students to become independent in their learning process. As Portes et al. (2024, p. 115) highlight, "the use of digital platforms contributes to the development of learner autonomy by providing students the freedom to explore content and complete activities independently, without requiring constant supervision." This statement demonstrates how digital platforms can empower students by giving them tools to take control of their learning, thereby promoting self-regulation skills.

The importance of digital inclusion is further evident in Santos et al.'s (2020, p. 90) assertion: "digital technologies enable students with diverse educational needs to access customized content, which is essential for promoting equal opportunities in the educational process." This quotation reinforces the concept that digital platforms play a significant role in creating an equitable educational environment where all students, regardless of limitations, can access knowledge and develop their skills.

The use of digital platforms in education has proven to be not just a resource for adapting instruction to individual student needs, but also a pathway toward building inclusive education. Thus, by enabling teaching personalization and promoting learner autonomy, digital platforms become essential tools for creating an accessible, inclusive, and equitable educational environment.

Challenges and potentialities of online and hybrid teaching

The use of digital platforms in remote and hybrid teaching has become an established trend in recent decades, particularly following the COVID-19 pandemic. Digital platforms offer numerous benefits, including time and space flexibility, allowing students to access educational content anytime and anywhere. However, they also present significant challenges. According to Mattos and Reis (2021, p. 65), "remote and hybrid teaching, while presenting opportunities for expan-

ding educational access, also requires changes in pedagogical practices, institutional structures, and the profiles of both students and teachers." This statement highlights the complexity of transitioning to digital teaching, which, despite bringing innovations, also demands significant adaptations across various aspects of the educational process.

Moreover, digital platforms have the potential to transform teaching by enabling active methodologies like problem-based learning and gamification. However, as noted by Oliveira (2023, p. 122), "implementing hybrid learning environments requires integrating multiple technologies, necessitating not only adequate infrastructure but also changes in how teachers interact with students and content." This observation underscores the need for a comprehensive, well-planned approach to ensure the success of digital platforms in hybrid teaching, emphasizing that merely adopting technologies doesn't guarantee positive outcomes.

Teacher training represents a fundamental factor for successful remote and hybrid teaching. As Portes et al. (2024, p. 119) assert, "teachers play a central role in mediating digital instruction, and their ongoing training is essential for effective platform use to ensure teaching practices remain aligned with student needs and demands." This statement emphasizes that beyond technological infrastructure, teachers must be properly prepared to use these platforms, requiring specific and continuous professional development.

Additionally, adequate technological infrastructure is crucial for effective digital teaching. França and Freitas (2022, p. 147) state, "inadequate infrastructure and lack of technical support in educational institutions can compromise online learning experiences, limiting student access to technologies and hindering implementation of active methodologies." This reinforces that successful remote and hybrid teaching requires investments not only in digital platforms but also in technological resources and technical support to ensure all students can equally benefit from these tools.

Methodology

This text constitutes a narrative literature review utilizing scientific databases to cover the proposed authors. The objective was to compile relevant content on *Distance Education: 21st Century Digital Platforms and Learner Autonomy*, focusing on various theories. An analytical, bibliographic qualitative study was conducted through books, articles, and video lectures from databases including *PePSIC*, *SciELO*, and *Google Scholar*. The most relevant materials were subsequently included, while non-pertinent content was excluded.

Discussion

The use of digital platforms has proven to be an effective tool for promoting learner autonomy, as it enables students to take control of their own learning process. França (2021, p. 110) emphasizes that "digital platforms provide resources that allow students to learn at their own pace, choose content that interests them, and complete activities independently." This statement de-

monstrates how digital platforms can create flexible learning environments that encourage students to become autonomous, developing self-regulation skills and independence in their educational journey.

Furthermore, Portes et al. (2024, p. 120) highlight that "using digital platforms in teaching facilitates the creation of environments that stimulate learner autonomy, offering not only access to content but also tools that enable students to manage their own learning with freedom and responsibility." From this quote, we can understand that digital platforms provide a structure that goes beyond simple knowledge access, encouraging students to manage their time, set learning goals, and find solutions to challenges - essential elements for developing autonomy.

Oliveira (2023, p. 125) states that "pedagogical practices mediated by digital platforms promote student autonomy, particularly when combined with methodologies that encourage research and problem-solving, such as problem-based learning (PBL)." The integration of digital platforms with active methodologies like PBL clearly demonstrates how digital tools can foster autonomy by engaging students in learning situations that require critical thinking and practical knowledge application.

Examples of best practices in using digital platforms can be observed in various educational initiatives that strategically implement these tools. Santos et al. (2020, p. 95) note that 'some platforms, by promoting student interaction and offering personalized resources, successfully create learning environments that simultaneously stimulate autonomy and collaboration.' This practice is evident in platforms incorporating discussion forums and collaborative activities, where students assume active roles in knowledge construction while developing independent learning skills.

The teacher's role in 21st century education has been transformed by the increasing integration of digital platforms in the teaching-learning process. According to Santos et al. (2020, p. 92), "when mediating digital platform use, the teacher's role extends beyond knowledge transmission to becoming a facilitator guiding students in their autonomous learning journey." This shift reflects the need to adapt to new pedagogical models where teaching is student-centered rather than teacher-centered, focusing on student-technology interactions.

Moreover, this transformation requires balancing mediation and student autonomy. França (2021, p. 112) emphasizes that "while digital platforms provide student resources, teachers must guide strategic tool use to ensure students maintain autonomy without losing necessary pedagogical direction." This balance is crucial for developing student autonomy while preserving the teacher's essential role as a learning guide. Teacher mediation proves key to successful platform implementation by providing necessary support for student exploration while encouraging learning responsibility.

Oliveira (2023, p. 128) further highlights this balance, stating: "digital platform use requires teachers to continually adjust their approach, alternating between active mediation phases and greater student autonomy periods, demanding constant flexibility and adaptation." This demons-

trates that teachers must not only adapt their practices to new technological contexts but also be prepared to shift teaching styles according to student needs. Teacher flexibility in mediation therefore constitutes a central factor for successful educational technology implementation.

The implementation of digital platforms in education faces numerous challenges, including infrastructure requirements and teacher/student training needs. Technological infrastructure - or lack thereof - represents a major obstacle. As Mattos and Reis (2021, p. 67) state, "digital platform adoption requires robust infrastructure ensuring continuous, uninterrupted access to learning tools, which many schools - particularly in underprivileged areas - cannot guarantee." This highlights how access quality determines digital platform implementation success, with inadequate equipment, unstable internet connections, and technical support shortages consistently hindering full technology integration.

Teacher training presents another significant challenge. According to Portes et al. (2024, p. 123), "teachers require ongoing training for digital platform use, as simply introducing new technologies doesn't guarantee teaching quality improvement." This emphasizes the importance of comprehensive teacher development encompassing both technical platform use and necessary pedagogical adaptations for meaningful tool integration into teaching-learning processes.

Resistance to change constitutes another major challenge. França (2021, p. 115) observes that "many teachers struggle to adopt new technologies due to natural resistance to change, particularly when these technologies require shifting traditional teaching models." This resistance may reflect educator insecurity regarding new tools and limited prior experience with digital teaching, demanding institutional support through training and psychological/pedagogical guidance during the digital transition. Finally, student adaptation presents another relevant challenge.

According to Oliveira (2023, p. 130), "students, even though they are familiar with the use of technology in their daily lives, do not always know how to use it productively in the educational context, which requires specific guidance from teachers." This quote highlights that, although students are digital natives, being accustomed to technology in everyday life does not necessarily mean they know how to use it for educational purposes. Adapting to the use of digital platforms requires both teachers and students to engage in a continuous learning process.

Final considerations

By systematically compiling a comprehensive body of information on essential topics related to Distance Education: Digital Platforms and 21st Century Learner Autonomy, this research enables scholars to redirect time previously spent on foundational literature searches toward deeper reflective analysis.

In research of this scope, determining the threshold of sufficient information to elucidate educational realities and substantiate pedagogical practices proves challenging. Therefore, maintaining balanced criteria, the research team adopted methodical systematization to facilitate

access to diverse conceptual and methodological approaches representative of various didactic-pedagogical schools of thought.

The study concludes that digital platforms hold transformative potential for 21st century distance education by: Fostering learner autonomy, and redefining the teacher's role to maximize teaching-learning process benefits

This research is expected to provide educators in related fields with: A deeper understanding of the subject matter and a more comprehensive technical-scientific perspective. However, further studies remain necessary to expand upon and deepen the findings presented herein.

Reference

França, S. C. C. and Freitas, L. G. de (2022). Revisão sistemática: avaliando as contribuições das Tecnologias Digitais da Informação e Comunicação (TDICs) para o desenvolvimento das funções psicológicas superiores. *Revista de Estudos em Educação*, 17(2), 1246-1262. https://dialnet.unirioja.es/servlet/articulo?codigo=8583246

França, S. C. C. (2021). *Tecnologias digitais da informação e comunicação na educação superior: contribuições para o desenvolvimento da autonomia discente.* Dissertação (Mestrado) – Universidade Católica de Brasília, Brasília. https://bdtd.ucb.br:8443/jspui/handle/tede/2889

Mattos, N. P. O. and Reis, H. M. M. S. (2021). Como a pandemia do Covid-19 influencia (ou) a educação no século XXI. *Revista Educação Científica*, 73-86. https://downloads.editoracientifica.com.br/articles/210805632.pdf

Oliveira, V. B. de. (2023). *Discussões das práticas avaliativas em turmas do nono ano do ensino fundamental de uma escola pública estadual de Goiânia e os depoimentos dos docentes sob o olhar das concepções de cunho histórico-cultural.* Dissertação (Mestrado em Educação). Pontifícia Universidade Católica de Goiás, Goiânia. https://tede2.pucgoias.edu.br/handle/tede/4960.

Portes, C. S. V., Vaz, F. da C., Cazeli, G. G., Ferreira, H. G., Mota, M. F. A. Maciel, R. C. A., Freitas, T. S. and Silva, W. L. da. (2024). O papel das tecnologias digitais na formação de professores: oportunidades e desafios dos ambientes virtuais de aprendizagem. In: Santos, S. M. A. V. e Franqueira, A. da S. (orgs.). *Inovação na educação: metodologias ativas, inteligência artificial e tecnologias na educação infantil e integral.* Capítulo 04, 101-126. https://doi.org/10.51891/rease.978-656054-111-5-4.

Santos, L. N. dos., Lemos, A. S. R., Santos, T. F. dos. and Vieira. K. V. R. G. (2020). As tecnologias digitais da informação e comunicação (TDIC) aplicadas nas metodologias de ensino híbrido e gamificação. In: *Anais do Congresso Internacional de Educação e Tecnologia (CIET).* https://ciet.ufscar.br/submissao/index.php/ciet/article/view/499