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Assessment of the appropriation of digital transformation and educational innovation in history students

Evaluación de la apropiación de la transformación digital e innovación educativa en estudiantes de historia

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ABSTRACT

This study aimed to evaluate the level of appropriation of digital transformation and educational innovation among second-semester History students, considering its impact on teaching and learning processes in higher education. A mixed methodological approach with an exploratory and descriptive design was applied to a census

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population of 40 students. Data were collected through a Likert-type questionnaire and semi-structured interviews. The results show a medium-high level of digital tool usage, a positive perception of innovative teaching methodologies, and a direct relationship between technological appropriation and academic motivation. The findings confirm that pedagogically integrated digital transformation enhances historical learning and educational quality.

RESUMEN

La transformación digital y la innovación educativa constituyen pilares fundamentales para el fortalecimiento de la calidad de la educación superior. No obstante, en carreras de ciencias sociales como Historia, persisten desafíos relacionados con la apropiación efectiva de las tecnologías digitales y su integración pedagógica. El objetivo de esta investigación fue evaluar el nivel de apropiación de la transformación digital y la innovación educativa en estudiantes de Historia del segundo semestre. Se adoptó un enfoque metodológico mixto, con un diseño exploratorio y descriptivo, aplicado a una población censal de 40 estudiantes. Se utilizaron cuestionarios tipo Likert y entrevistas semiestructuradas. Los resultados evidencian un uso frecuente de herramientas digitales, una percepción positiva de la innovación educativa y una relación significativa entre la apropiación tecnológica y la motivación académica. Se concluye que la integración pedagógica de las tecnologías digitales fortalece los procesos de aprendizaje histórico y contribuye a la calidad educativa.

Keywords / Palabras clave

transformación digital, innovación educativa, enseñanza de la historia.

digital transformation; educational innovation; higher education; history education

Introduction

Digital transformation has redefined education systems globally, driving substantive changes in pedagogical models, academic management, and learning processes. In the context of higher education, this transformation is linked to educational innovation, understood as the systematic implementation of new practices, methodologies, and technologies aimed at improving the quality of learning (OECD, 2020; UNESCO, 2023).

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In Latin America, universities face the challenge of integrating digital technologies in contexts characterized by access gaps, infrastructure limitations, and the persistence of traditional teaching models (Cabero-Almenara & Llorente-Cejudo, 2020). In majors such as history, these challenges are intensified by the predominance of expository approaches focused on content transmission, which limits the potential of technologies to foster critical thinking, historical research, and active learning (Wineburg, 2018).

The literature indexed in SciELO, Latindex, and Web of Science agrees that technological appropriation by students is a key variable for the success of educational innovation processes (Area & Guarro, 2020; Bond et al., 2021). Appropriation is not limited to the instrumental use of devices, but involves the meaningful integration of technologies into students' cognitive, metacognitive, and academic processes.

In social science majors such as history, digital transformation takes on a particular dimension, as these disciplines have traditionally been linked to expository and teacher-centered methodologies. However, access to digital archives, historical repositories, simulations, interactive timelines, and learning platforms now allows for the development of critical analysis skills, source interpretation, and historical thinking.

Despite this potential, multiple studies show that the mere availability of technology does not guarantee its pedagogical appropriation or its impact on learning. Technological appropriation implies that students consciously, autonomously, and meaningfully integrate digital tools into their educational process.

From this perspective, the problem addressed by this research lies in the need to understand the extent to which second-semester history students are appropriating the digital transformation and innovative methodologies implemented in their educational process. This knowledge gap limits evidence-based pedagogical decision-making.

What is the level of appropriation of the digital transformation among second-semester history students?

How do students perceive educational innovation mediated by digital technologies?

What digital skills have they developed during their educational process?

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How does digital transformation influence their motivation and learning?

The study is based on the approaches of educational innovation, constructivist learning, and technological appropriation, which postulate that students learn more deeply when they actively interact with digital resources, problems, and environments.

Finally, the overall objective of the research is to evaluate the level of appropriation of digital transformation and educational innovation in second-semester history students, with the aim of strengthening teaching-learning processes in higher education.

Materials and Methods

The study was conducted using a mixed approach, integrating quantitative and qualitative methods, with an exploratory and descriptive design of a non-experimental and cross-sectional nature (Creswell & Plano Clark, 2018). The population consisted of 40 second-semester history students. A census sample was applied, considering the entire population. Surveys and interviews were used as data collection techniques. The quantitative instrument was a 12-item Likert-type questionnaire structured in four dimensions: use of technologies, digital self-efficacy, educational innovation, and motivation. The qualitative instrument consisted of a semi-structured interview guide aimed at exploring perceptions and experiences of digital learning. Quantitative data were analyzed using descriptive statistics (frequencies and percentages), while qualitative data were processed using thematic analysis. Ethical criteria of confidentiality, informed consent, and academic use of information were respected.

Results

The results indicate that 52.5% of students use digital tools frequently or permanently, which shows a favorable level of technological appropriation. Likewise, 70% have a high or very high perception of educational innovation, highlighting the use of multimedia resources and virtual platforms. The relationship between digital adoption and academic motivation shows that students with greater technological

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proficiency have higher levels of interest and commitment to learning history.

These findings coincide with international research indicating that technology, when integrated pedagogically, improves motivation and the quality of learning. From an interpretive perspective, students particularly value access to digital historical sources, explanatory videos, and interactive activities, which strengthen autonomous learning and critical thinking.

Fifty-two point five percent of students use digital tools frequently or permanently, which shows a medium-high level of technological appropriation in the history learning process.

Seventy percent of students have a high or very high perception of educational innovation, which indicates a positive assessment of the pedagogical use of technologies in the degree program.

A clear trend can be observed: the greater the level of appropriation of digital transformation, the greater the academic motivation of students, which supports research to evaluate the level of appropriation of digital transformation and educational innovation in second-semester history students, with the aim of strengthening teaching-learning processes in higher education.

The findings are consistent with previous studies published in WoS and SciELO, which highlight the importance of the pedagogical integration of technologies to enhance learning (Bond et al., 2021; Area & Guarro, 2020). In the History program, technological appropriation favors the development of historical thinking and active participation.

Conclusions

The research shows that second-semester history students have a medium-high level of digital transformation appropriation, which is positively associated with the perception of educational innovation and higher levels of academic motivation. These results confirm that the pedagogical integration of digital technologies not only optimizes teaching-learning processes but also strengthens commitment, participation, and the development of cognitive skills specific to historical thinking.

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The following conclusions are drawn from the results obtained, their analysis, and discussion:

Students show a significant degree of appropriation of digital transformation, reflected in the frequent use of educational platforms, multimedia resources, and digital tools for learning history.

Technology-mediated educational innovation is valued positively by students and is linked to an increase in motivation, academic interest, and participation in educational activities.

The pedagogical integration of digital resources contributes directly to the strengthening of historical learning, promoting critical analysis, the interpretation of sources, and the development of analytical and metacognitive skills.

Digital transformation is consolidating its position as a strategic axis for improving the quality of university education in history, provided that it is accompanied by intentional didactic design and teacher mediation oriented towards innovation.

Taken together, these findings provide empirical evidence supporting the need to consolidate institutional policies for teacher training and curriculum innovation, aimed at ensuring the effective, sustainable, and pedagogically meaningful implementation of digital transformation in higher education.

References

Area, M., & Adell, J. (2021). Tecnologías digitales y cambio educativo. Revista Iberoamericana de Educación, 85(2), 11–28. https://doi.org/10.35362/rie8524039

Area, M., & Guarro, A. (2020). La apropiación de las tecnologías digitales en la educación superior. Comunicar, 28(65), 21–30. https://doi.org/10.3916/C65-2020-02

Bond, M., Marín, V. I., Dolch, C., Bedenlier, S., & Zawacki-Richter, O. (2021). Digital transformation in higher education: A systematic review. Computers & Education, 173, 104271. https://doi.org/10.1016/j.compedu.2021.104271

Cabero-Almenara, J., & Llorente-Cejudo, C. (2020). La innovación educativa con tecnologías emergentes. Edutec. Revista Electrónica de Tecnología Educativa, 72, 1–16.

Received October 24, 2025/ Approved November 30, 2025 Pages: 36-42
eISSN: 2600-5743

https://doi.org/10.21556/edutec.2020.72.1633
Creswell, J. W., & Plano Clark, V. L. (2018). Designing and conducting mixed methods research (3rd ed.). SAGE.
García-Peñalvo, F. J., Corell, A., Abella-García, V., & Grande-de-Prado, M. (2021). Online assessment in higher education in the time of COVID-19. Education in the Knowledge Society, 22, e25288. https://doi.org/10.14201/eks.25288
Hernández-Sampieri, R., Fernández-Collado, C., & Baptista-Lucio, P. (2014). Metodología de la investigación (6.ª ed.). McGraw-Hill.
Koehler, M. J., & Mishra, P. (2009). What is technological pedagogical content knowledge? Contemporary Issues in Technology and Teacher Education, 9(1), 60–70.
OECD. (2020). Education in the digital age. OECD Publishing. https://doi.org/10.1787/86c9f1a5-en

Redecker, C. (2017). European framework for the digital competence of educators: DigCompEdu. European Commission.
Salinas, J. (2019). Innovación docente y transformación digital en la educación superior. RED. Revista de Educación a Distancia, 19(60), 1–21. https://doi.org/10.6018/red/60/05
Teo, T., Fan, X., & Du, J. (2019). Technology acceptance among university students. Computers & Education, 128, 13–26. https://doi.org/10.1016/j.compedu.2018.09.009
UNESCO. (2023). Digital transformation of education: Global education monitoring report. UNESCO Publishing.
Valverde-Berrocoso, J., Fernández-Sánchez, M. R., Revuelta-Domínguez, F. I., & Sosa-Díaz, M. J. (2020).

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