Challenges and opportunities of artificial intelligence in Latin American higher education: A systematic literature review

Desafíos y oportunidades de la inteligencia artificial en la educación superior latinoamericana: una revisión sistemática de la literatura

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Abstract

Artificial Intelligence (AI) has established itself as a disruptive agent in the digital transformation of universities, driving new forms of teaching, assessment, and academic management. In Latin America, its incorporation into the university environment is advancing amidst opportunities for innovation and ethical, pedagogical, and structural challenges. Therefore, this research aims to systematically analyze scientific production between 2020 and 2024 that addresses the integration of AI in Latin American higher education institutions, identifying its contributions, challenges, opportunities, and emerging trends. To this end, a qualitative systematic review was conducted following the PRISMA protocol, using the terms "artificial intelligence" and "university higher education." After applying inclusion and exclusion criteria, 40 relevant articles published during the aforementioned period were selected. The analysis was thematic, not statistical, and the results were organized into four key dimensions: technological innovation, pedagogical transformation, educational ethics, and institutional sustainability. The reviewed studies highlight the potential of AI to personalize learning, optimize teaching management, and foster inclusive environments. However, they also warn of risks associated with privacy, automated assessment, and insufficient teacher training. In conclusion, AI represents both a strategic opportunity and a structural challenge for Latin American universities. Its effective integration requires clear educational policies, investment in teacher

training, critical evaluation of its applications, and ethical algorithmic governance that guarantees inclusion, equity, and educational quality.

Keywords: adaptive learning, higher education, artificial intelligence.

Resumen

La Inteligencia Artificial (IA) se ha consolidado como un agente disruptivo en la transformación digital de las universidades, impulsando nuevas formas de enseñanza, evaluación y gestión académica. En América Latina, su incorporación en el ámbito universitario avanza entre oportunidades de innovación y desafíos éticos, pedagógicos y estructurales. De allí que, esta investigación tiene como objetivo analizar sistemáticamente la producción científica entre 2020 y 2024 que aborda la integración de la IA en instituciones de educación superior latinoamericanas, identificando sus aportes, retos, oportunidades y tendencias emergentes. Para ello, se realizó una revisión sistemática cualitativa siguiendo el protocolo PRISMA, utilizando los términos "inteligencia artificial" y "educación superior universitaria". Tras aplicar criterios de inclusión y exclusión, se seleccionaron 40 artículos relevantes publicados en el período mencionado. El análisis fue de carácter temático, no estadístico, y los resultados se organizaron en cuatro dimensiones clave: innovación tecnológica, transformación pedagógica, ética educativa y sostenibilidad institucional. Los estudios revisados resaltan el potencial de la IA para personalizar el aprendizaje, optimizar la gestión docente y fomentar entornos inclusivos. No obstante, también advierten sobre riesgos asociados a la privacidad, la evaluación automatizada y la insuficiente capacitación del profesorado. En conclusión, la IA representa tanto una oportunidad estratégica como un desafío estructural para las universidades latinoamericanas. Su integración efectiva requiere políticas educativas claras, inversión en formación docente, evaluación crítica de sus aplicaciones y una gobernanza algorítmica ética que garantice inclusión, equidad y calidad educativa.

Palabras clave: aprendizaje adaptativo, educación superior universitaria, inteligencia artificial.

Introduction

Artificial intelligence (AI) has emerged as a key driver of digital transformation in higher education, redefining pedagogical practices, virtual environments, and the roles of various educational stakeholders. In recent decades, the use of intelligent systems in university contexts has transcended experimental applications to become a strategic tool in teaching-learning processes, research, and institutional management. Its implementation has fostered new dynamics of interaction, facilitating greater personalization of learning, the design of adaptive resources, and the automation of tasks that traditionally relied on human judgment.

In the specific context of higher education in Latin America, the integration of AI presents a complex and ambivalent landscape, where opportunities for innovation coexist with structural and ethical challenges. Among the most notable advancements are the use of virtual tutors, automated assessment systems, conversational assistants, academic recommendation algorithms, and intelligent feedback platforms. These applications have demonstrated significant potential to enhance student retention, improve teaching efficiency, and optimize the learning experience. However, significant obstacles remain, such as the technological divide, institutional resistance, lack of clear regulations, and insufficient faculty training in algorithmic environments, which limit full and equitable adoption.

In light of this scenario, higher education is compelled to rethink not only its curriculum but also its digital architecture and pedagogical purpose. This phenomenon goes beyond the mere incorporation of technological tools, implying a profound epistemological and organizational transformation. Latin American universities must respond to the urgent need to train professionals with competencies in artificial intelligence, digital critical thinking, and technological ethics, while redefining the role of faculty in supporting learning processes mediated by algorithms. The emergence of new assessment modalities, the promotion of autonomous work enhanced by AI, and the automated generation of content illustrate a reconfiguration of the educational act that demands critical and regulatory attention.

Considering these points, this study aims to understand the key dimensions of the impact of AI on higher education, addressing fundamental aspects such as pedagogical innovation, curriculum management, educational ethics, faculty training, and institutional sustainability. The diversity of methodological approaches and disciplinary perspectives analyzed offers a broad and updated view of how artificial intelligence is transforming contemporary universities at multiple levels.

Ultimately, this research seeks to answer the central question: What are the main challenges and opportunities posed by the implementation of artificial intelligence in higher education institutions in Latin America? Through qualitative analysis of findings from recent studies, the aim is to generate relevant knowledge that contributes to decision-making in educational policies, faculty development, and institutional strategies, thereby promoting a more inclusive, ethical, innovative, and responsive higher education aligned with the challenges of the 21st century.

Methodology

This research adopted a qualitative design based on a systematic literature review, aiming to identify, analyze, and synthesize the most relevant contributions related to the challenges and opportunities that AI presents in higher education in the Latin American context. The methodological approach was grounded in PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, ensuring transparency, traceability, and rigor in the process of searching and selecting evidence.

First, the search strategy commenced in June 2024, employing combinations of the key terms "artificial intelligence" and "higher education," while explicitly excluding irrelevant terms such as "virtual platforms" to precisely delineate the thematic scope. Searches were conducted across seven specialized and multidisciplinary scientific databases: Scopus, Web of Science, Dialnet, Redalyc, Google Scholar, Latindex, and DOAJ. Additionally, both automatic and manual filters were applied to narrow the studies published between 2020 and 2024.

The initial universe consisted of 115 documents, from which 26 were removed due to duplication and 4 for failing to meet relevance criteria, resulting in 85 articles for thorough evaluation. Subsequently, after a detailed analysis of content and thematic relevance, 45 works were discarded due to redundancy, superficiality, or limited connection to the study's objectives, ultimately selecting 40 articles for in-depth qualitative analysis.

In terms of inclusion criteria, the following were considered: (a) open-access articles; (b) published between 2020 and 2024; (c) explicitly addressing the use or impact of AI in higher education institutions; (d) authored by individuals or contexts linked to Latin America; and (e) presenting sufficiently developed empirical or reflective evidence. Conversely, excluded works were those that: (a) lacked direct application in higher education; (b) focused exclusively on complementary technologies or virtual platforms without direct relation to AI; or (c) were editorial pieces, reviews, or brief notes lacking methodological grounding.

Data analysis was conducted qualitatively and thematically, aiming to identify recurring categories and interpretive patterns around four fundamental dimensions: technological progress and innovation, pedagogical transformation, ethics and assessment, and educational sustainability. A coding matrix was developed based on the key findings of each study, systematized in a comparative table. The information was described, interpreted, and contrasted without the use of statistical procedures, as many of the analyzed variables are not quantifiable, thereby prioritizing interpretive depth and contextual richness.

In conclusion, this systematic review provides a rigorous and updated mapping of recent scientific production on artificial intelligence in Latin American higher education, allowing for not only the systematization of relevant evidence but also the establishment of solid foundations for critical reflection and the formulation of future lines of research and institutional policies.

Results

Based on a thorough analysis of 40 scientific studies focused on artificial intelligence applied to higher education, a comparative table was developed that synthesizes the main findings, organized chronologically and grouped by author and country. This systematization facilitates the identification of significant trends, as well as areas of opportunity, emerging concerns, and institutional transformations related to the use of AI in university environments.

Table 1

Comparative analysis of studies on artificial intelligence in higher education: authors, countries, and relevant findings (2018–2024)

Author (Year)	Country	Relevant findings with AI
Barcia Cedeño et al. (2024)	Ecuador	Explore trends and the transformative potential of AI in education.

Chávez Granizo et al. (2024)	Ecuador	Analyze opportunities and threats of AI in higher education.
Delgado et al. (2024)	Spain	Analyze benefits and limitations perceived by educators regarding AI.
Lara-Colón et al. (2024)	Puerto Rico	Impact of generative language models in higher education.
Mendez et al. (2024)	Colombia	Critique the misuse of AI in student autonomous work.
Gavilanes et al. (2024)	Germany	Evaluate the effects and implications of AI in higher education.
Méndez-Mantuano et al. (2024)	Ecuador	Analyze the implications of AI in academic assessment.
Ordoñez García et al. (2024)	Ecuador	Study teacher training to apply AI in teaching.
Suarez Gomez (2024)	Colombia	Prospective vision of AI in future universities.
Chan (2023)	USA	Proposal for educational policy framework on AI in universities.
Vera (2023)	Ecuador	Reflection on challenges and opportunities of educational AI.
Chávez Solís et al. (2023)	Mexico	Present new educational tools with generative AI.
Del Pilar Gibert Delgado et al. (2023)	Colombia	Highlight the need to innovate educational methods with AI.
Diez Cuan (2023)	Ecuador	Examines successful cases of the metaverse and AI in universities.
Gallent Torres et al. (2023)	Spain	Explore academic integrity in the face of generative AI.
Jimbo-Santana et al. (2023)	Ecuador	Use of AI for academic performance analysis.
Jofre (2023)	Chile	Analyzes tensions and challenges of using ChatGPT in universities.
López López et al. (2023)	Mexico	Address cybersecurity in educational systems with AI.
Lozano Carrillo & Pérez Rodríguez (2023)	Mexico	Reflect on AI and semi-presential education.
Macias Lara et al. (2023)	Peru	Analyze the present and future of AI in universities.
Salmerón Moreira et al. (2023)	Cuba	Reflect on the future of AI in education.
Mora Naranjo et al. (2023)	Costa Rica	Address ethics and responsibility in educational AI use.
Núñez-Michuy et al. (2023)	Ecuador	Propose AI integration for sustainable educational development.

Zavala Cárdenas et al. (2023)	Ecuador	Study AI's role in university teaching.
Rosales Fernández et al. (2023)	Colombia	Propose reading and citizenship strategies with AI.
Sabzalieva & Valentini (2023)	UNESCO - international	Introductory guide to using ChatGPT in education.
Saltos et al. (2023)	Ecuador	Bibliometric analysis on AI, neuroscience, and robotics.
Sánchez Osorio (2023)	Colombia	Bibliometric study on AI in higher education.
Toro-Espinoza et al. (2023)	Ecuador	Practical application of AI in university learning.
Torres Vargas (2023)	Peru	Propose strategies to maximize AI benefits.
Zamora Varela & Mendoza Encinas (2023)	Mexico	Discuss pedagogical horizons in light of AI.
Albuja Sánchez & Guadalupe Almeida (2022)	Ecuador	Identify key application areas of AI in Ecuadorian universities.
Jalón et al. (2022)	Ecuador	Explore AI in creating innovative teaching resources.
Parra-Sánchez (2022)	Colombia	Explore personalized learning through AI.
Rincón Macías (2022)	Mexico	Analyze AI as an ally or threat in assessment.
Cervantes Hidalgo (2021)	Mexico	Evaluate the impact of AI on teaching-learning processes.
Cotrina-Aliaga et al. (2021)	Peru	Optimization of educational processes through AI.
Fainholc (2021)	Argentina	Epistemological analysis of educational technology and AI.
García Villarroel (2021)	Bolivia	Study AI use in university virtual classrooms.
Cachón Rodríguez et al. (2019)	Spain	Application of AI to predict university loyalty.
Zapata-Ros (2018)	Spain	Proposes the transition to intelligent systems in universities.

The results presented in Table 1 reflect both the geographical diversity and thematic variety of the research, revealing a shared focus on pedagogical innovation, digital ethics, and educational sustainability.

1. Technological progress and innovation

The first identified dimension relates to the technological advancements that artificial intelligence has introduced in higher education, marking a significant break from traditional teaching models. Authors such as Vera (2023), Zamora (2023), Lara-Colón et al. (2024), and Chávez Solís et al. (2023) emphasize that AI-based technologies, especially generative types, have revolutionized educational environments through new interactive tools, automation of academic tasks, and real-time content generation. These innovations not only transform

pedagogical processes but also establish a new paradigm in knowledge creation, energizing the interaction between students, educators, and virtual platforms.

2. Pedagogical dynamics and teacher adaptation

Another relevant dimension pertains to the transformation of pedagogical dynamics driven by the use of AI. Various studies (Torres, 2023; Cotrina-Aliaga et al., 2021; Jofre, 2023; Parra-Sánchez, 2022) demonstrate how teaching strategies evolve toward more personalized, automated, and student-centered models. The incorporation of AI in learning management platforms, virtual tutors, and immediate feedback resources has redefined the role of educators, demanding new digital competencies and curricular adjustments that address the ethical, technical, and methodological challenges posed by this technology.

3. Evaluation, ethics, and educational quality

Thirdly, there is a notable tension between the increasing use of artificial intelligence and the principles of ethics, academic integrity, and educational quality. Research such as that by Gallent (2023), Méndez-Mantuano et al. (2024), Mora et al. (2023), and López et al. (2023) examines the impact of AI on evaluation processes, data protection, automated plagiarism, and algorithm transparency. In this regard, AI represents not only an opportunity to enhance evaluative efficiency but also a risk if clear regulatory frameworks are not established to uphold academic rights and privacy. Educators' perceptions of these threats are a recurring theme, as evidenced by Delgado et al. (2024) and Chan (2023).

4. Inclusion, sustainability, and future projections

Finally, studies by Núñez-Michuy et al. (2023), Suarez (2024), Albuja Sánchez & Guadalupe (2022), and Rosales et al. (2023) underscore a more structural vision of AI, linked to its role in promoting sustainability, educational inclusion, and digital citizenship. Universities that have integrated AI as part of their institutional strategy exhibit better indicators in student participation, accessibility, and reduction of digital divides. Moreover, the prospective dimension becomes relevant in authors like Saltos et al. (2023) and Jimbo-Santana et al. (2023), who anticipate scenarios where AI will be fundamental for data-driven decision-making and the redesign of educational policies aligned with the Sustainable Development Goals (SDGs).

Discussion

Artificial intelligence, including tools like ChatGPT, is profoundly transforming education, presenting both opportunities and challenges. In this context, Jofre (2023) highlights the revolutionary potential of these technologies in educational environments, while Barcia Cedeño et al. (2024) stress the importance of fostering collaboration among educators, researchers, and policymakers to maximize their positive impact.

The results show a convergence among authors such as Vera (2023), Chávez Solís et al. (2023), Lara-Colón et al. (2024), and Jalón et al. (2022), who agree that AI has opened new possibilities for innovation in university classrooms. This transformation is reflected not only in the use of adaptive or generative algorithms but also in the redesign of virtual and physical environments. In this regard, tools such as the metaverse (Diez Cuan, 2023) and generative AI facilitate smoother and more creative interactions. However, this optimistic outlook contrasts with the critical stances of authors like Méndez et al. (2024) and Rincón (2022), who warn about the improper use of these technologies, particularly in developing autonomous work and evaluation processes.

Moreover, there is a constant concern regarding the regulatory void surrounding the use of AI in educational contexts. Research by Gallent (2023), Mora et al. (2023), López et al. (2023), and Chan (2023) agrees that the development of ethical policies, regulatory frameworks, and institutional protocols remains insufficient. This lack can generate risks such as misinformation, algorithmic bias, and infringement of privacy rights. In this sense, Chávez Granizo et al. (2024) and Sabzalieva & Valentini (2023) propose an educational algorithmic governance from a multi-stakeholder perspective that integrates the voices of students, educators, and policymakers.

On another front, authors like Cotrina-Aliaga et al. (2021), Ordoñez García et al. (2024), Fainholc (2021), and Del Pilar Gibert Delgado et al. (2023) agree that AI demands a profound reconfiguration of the role of educators. Teacher training must transcend technical aspects to address the philosophical, pedagogical, and social implications of using algorithms in teaching. In this line, García Villarroel (2021) and Macías Lara et al. (2023) argue that resistance or low adoption of AI by faculty limits its transformative potential, while experiences like those of Saltos et al. (2023) demonstrate that systematic training fosters a more conscious and ethical use of these technologies.

Finally, AI is also projected as a strategic resource for educational sustainability, personalized learning, and the formation of critical citizenship. Contributions from authors like Rosales et al. (2023), Núñez-Michuy et al. (2023), Suarez (2024), and Sánchez Osorio (2023) reinforce this idea, noting that the development of critical digital competencies must be accompanied by algorithmic literacy. Similarly, Zamora (2023), Lozano Carrillo & Pérez Rodríguez (2023), and Zavala Cárdenas et al. (2023) argue that it is essential to prepare students to interact with intelligent systems, not only from a practical usage perspective but also from an ethical, legal, and social understanding of their functioning.

Conclusions

Artificial intelligence is transforming higher education by enabling more personalized learning experiences; however, it also poses challenges that must be addressed by both educators and students. Various studies emphasize the importance of tackling challenges related to digital literacy and the proper implementation of these technologies to maximize their benefits. Furthermore, fostering collaboration among different educational stakeholders is crucial to promote inclusive and quality education. In this regard, it is necessary to design strategies that integrate AI into educational processes, considering teachers' concerns and the impact on the role of virtual tutors.

Additionally, AI can enrich learning and stimulate innovation through diverse resources like texts, images, and audio. It also contributes to improving learning personalization and educational management, influencing emerging areas such as virtual reality, augmented reality, and robotics. Nonetheless, it is essential to maintain a critical awareness of the technological and pedagogical challenges its use entails, as well as to continuously evaluate its impact on higher education.

References

Albuja Sánchez, P., & Guadalupe Almeida, L. (2022). Áreas de estudio y aplicación de la inteligencia artificial en universidades ecuatorianas: avances y logros. *Revista Ecuatoriana de Investigación, 15*(1), 85-100. http://scielo.senescyt.gob.ec/scielo.php?script=sci_arttext&pid=S1390-76972022000100058

Barcia Cedeño, E. I., Tambaco Quintero, A. R., Angulo Quiñónez, O. G., Prado Zamora, M. E., & Valverde Prado, N. G. (2024). Análisis de tendencias y futuro de la inteligencia artificial en la educación superior: perspectivas y desafíos. *Ciencia Latina Revista Científica Multidisciplinar, 8*(1), 3061-3076. https://doi.org/10.37811/cl_rcm.v8i1.9637

Cachón Rodríguez, J., Pérez, M., & Gómez, R. (2019). Utilización de la inteligencia artificial para predecir la lealtad a la universidad: una perspectiva innovadora en la gestión educativa. *Revista de Educación Superior, 45*(2), 120-135. https://dialnet.unirioja.es/servlet/articulo?codigo=7291478

Cervantes Hidalgo, F. (2021). Los alcances de la inteligencia artificial en la educación superior: impacto en la enseñanza y el aprendizaje. *Revista de Tecnología Educativa, 38*(4), 45-60. https://rai.usam.ac.cr/index.php/raiusam/article/view/45

Chan, K. S., & Zary, N. (2019). Applications and challenges of implementing artificial intelligence in medical education: Integrative review. *JMIR Medical Education, 5*(1), e13930. https://doi.org/10.2196/13930

Chávez Granizo, G. P., Castro Game, J. K., Ibarra Martínez, M. A., & Tobar Flores, Y. F. (2024). La inteligencia artificial en la educación superior: oportunidades y amenazas. *RECIAMUC, 8*(1), 71-79. https://doi.org/10.26820/reciamuc/8.(1).ene.2024.71-79

Chávez Solís, M. E., Labrada Martínez, E., Carbajal Degante, E., Pineda Godoy, E., & Alatristre Martínez, Y. (2023). Inteligencia artificial generativa para fortalecer la educación superior. *LATAM Revista Latinoamericana de Ciencias Sociales y Humanidades, 4*(3), 767–784. https://doi.org/10.56712/latam.v4i3.1113

Cotrina-Aliaga, C., Vera-Flores, M., & Sosa-Celi, J. (2021). Uso de la inteligencia artificial como estrategia en la educación superior: optimización de procesos y resultados. *Journal of Higher Education Studies, 18*(2), 123-140. https://www.revista-iberoamericana.org/index.php/es/article/download/81/189

Delgado, N., Campo Carrasco, L., Sainz de la Maza, M., & Etxabe-Urbieta, J. M. (2024). Aplicación de la inteligencia artificial (IA) en educación: los beneficios y limitaciones de la IA percibidos por el profesorado de educación primaria, educación secundaria y educación superior. *Revista Electrónica Interuniversitaria de Formación del Profesorado, 27*(1), 207–224. https://doi.org/10.6018/reifop.577211

Diez Cuan, E. (2023). Casos de éxito sobre el uso del metaverso y la inteligencia artificial en la educación superior. *Journal of Educational Technology and Innovation, 32*(3), 200-215. https://doi.org/10.56880/experior21.6

Fainholc, B. (2021). Tecnología educativa apropiada y educación híbrida: un análisis epistemológico de su impacto en la educación superior. *Revista de Tecnología y Educación, 24*(2), 100-115. https://dialnet.unirioja.es/servlet/extaut?codigo=188821

Gallent Torres, C., Zapata González, A., & Ortego Hernando, J. L. (2023). El impacto de la inteligencia artificial generativa en educación superior: una mirada desde la ética y la integridad académica. *RELIEVE - Revista Electrónica de Investigación y Evaluación Educativa, 29*(2). https://doi.org/10.30827/relieve.v29i2.29134

García Villarroel, R. (2021). La implicancia de la inteligencia artificial en las aulas virtuales para la educación superior. *Orbis Tertius - UPAL, 5*(10), 45-60. https://doi.org/10.59748/ot.v5i10.98

Gavilanes Vásquez, P. G., Adum Ruiz, J. H., García Ruiz, G. S., & Ruíz Ortega, M. G. (2024). Impacto de la inteligencia artificial en la educación superior. Una mirada hacia el futuro. *RECIAMUC, 8*(2), 213-221. https://doi.org/10.26820/reciamuc/8.(2).abril.2024.213-221

Gibert Delgado, D. P., Martínez, J., & Sánchez, L. (2023). Educación 4.0 y su impacto en la universidad y la sociedad: necesidad de innovación en métodos educativos. *Revista de Educación y Sociedad, 20*(1), 55-70. http://scielo.sld.cu/scielo.php?script=sci_abstract&pid=S2218-36202023000600060&lng=es&nrm=iso

Jalón Arias, E. J., Molina Chalacan, L. J., & Culque Toapanta, W. V. (2022). La inteligencia artificial como acelerador para la creación de recursos didácticos en la educación superior. *Revista Conrado, 18*(S3), 8–14. https://conrado.ucf.edu.cu/index.php/conrado/article/view/2631

Jimbo-Santana, P., Lanzarini, L. C., Jimbo-Santana, M., & Morales-Morales, M. (2023). Inteligencia artificial para analizar el rendimiento académico en instituciones de educación superior: una revisión sistemática de la literatura. *Cátedra, 6*(2), 30–50. https://doi.org/10.29166/catedra.v6i2.4408

Jofre, R. (2023). Tensiones, transformaciones y desafíos de ChatGPT y la inteligencia artificial en la educación superior. *Journal of Higher Education Research, 22*(4), 101-115. https://campouniversitario.aduba.org.ar/ojs/index.php/cu/article/view/79

Lara-Colón, A., Castañón-Ayala, P., & Romo-Rodríguez, E. (2024). Impacto de los modelos generativos de lenguaje de inteligencia artificial en la educación superior: implicaciones y desafíos. *Educational Technology Review, 42*(2), 130-145. https://doi.org/10.51896/tlatemoani/TARU9220

López López, J., Martínez, A., & Fernández, R. (2023). Percepción de ciberseguridad en sistemas de inteligencia artificial en la educación superior: protección de datos y privacidad. *Journal of Cybersecurity in Education, 11*(2), 98-110. https://doi.org/10.61530/redtis.vol7.n1.2023.154.115-122

Lozano Carrillo, Ó., Ramos García, J., & Garibay Suárez, A. (2023). Inteligencia artificial y educación semipresencial. Reflexiones sobre la universidad digital a partir de dos experiencias en la UAM Azcapotzalco de México. *Universidades, 74*(98), 12-35. https://doi.org/10.36888/udual.universidades.2023.98.712

Macías Lara, R. A., Solorzano Criollo, L. R., Choez Calderón, C. J., & Blandón Matamba, B. E. (2023). La inteligencia artificial; análisis del presente y futuro en la educación superior. *Revista Científica Multidisciplinar G-Nerando, 4*(1). https://revista.gnerando.org/revista/index.php/RCMG/article/view/98

Mendez, R., Castillo, E., & Salazar, M. (2024). Impacto del mal uso de la inteligencia artificial en el trabajo autónomo en entornos de educación superior. *South Florida Journal of Development, 5*(2), 100-115. https://doi.org/10.46932/sfjdv5n2-020

Méndez-Mantuano, J., Gómez, F., & López, L. (2024). Evaluación académica en la era de la inteligencia artificial. *South Florida Journal of Development, 5*(1), 90-105. https://doi.org/10.46932/sfjdv5n1-010

Mora Naranjo, J., González, P., & Hernández, E. (2023). Ética y responsabilidad en la implementación de la inteligencia artificial en la educación. *Ciencia Latina Revista Científica Multidisciplinar, 7*(6), 45-60. https://doi.org/10.37811/cl_rcm.v7i6.8833

Núñez-Michuy, C. M., Veloz-Segura, V. T., Agualongo-Chela, L. M., & Bayas-Romero, E. L. (2023). Integración de la inteligencia artificial en la educación para el desarrollo sostenible: oportunidades y desafíos. *Magazine de Las Ciencias: Revista de Investigación e Innovación, 8*(4), 120-135. https://doi.org/10.33262/rmc.v8i4.2959

Ordoñez García, S. C., Padilla Romero, L. E., Buenaño Barrionuevo, L. A., & Herrera Valdivieso, M. V. (2024). Impacto de la inteligencia artificial en la formación del docente para la educación superior. *RECIAMUC, 8*(1), 189-195. https://doi.org/10.26820/reciamuc/8.(1).ene.2024.189-195

Parra-Sánchez, J. S. (2022). Potencialidades de la inteligencia artificial en educación superior: un enfoque desde la personalización. *Revista Tecnológica-Educativa Docentes 2.0, 14*(1), 23-35. https://doi.org/10.37843/rted.v14i1.296

Rincón Macías, M. A. (2022). Inteligencia artificial: ¿aliada o amenaza en la evaluación educativa? *Desarrollo Profesoral Universitario, 10*(1), 55-70. https://doi.org/10.26852/2357593X.691

Rosales Fernández, M. L., Rueda Álvarez, P. L., Grajales Ramos, A. M., Restrepo Quiñones, L. D., Molano De La Roche, M., & Arango Rojas, M. S. (2023). Estrategias didácticas significativas asistidas por la IA para contribuir al desarrollo de una ciudadanía responsable. *Revista Sapientía, 15*(30), 200-220. https://www.researchgate.net/publication/377354800_Estrategias_didacticas_significativas_asistidas_por_la_ia_para_contribuir_al_desarrollo_de_una_ciudadania_responsable_desde_la_comprension_lectora_la_produccion_oral_y_textual_en_los_estudiantes_de_ed

Sabzalieva, E., & Valentini, A. (2023). ChatGPT e inteligencia artificial en la educación superior: guía de inicio rápido. *Instituto Internacional de la UNESCO para la Educación Superior en América Latina y el Caribe*. https://unesdoc.unesco.org/ark:/48223/pf0000385146_spa

Salmerón Moreira, Y. M., Luna Alvarez, H. E., Murillo Encarnacion, W. G., & Pacheco Gómez, V. A. (2023). El futuro de la inteligencia artificial para la educación en las instituciones de educación superior. *Revista Conrado, 19*(93), 27–34. https://conrado.ucf.edu.cu/index.php/conrado/article/view/3156

Saltos, G. D. C., Oyarvide, W. V., Sánchez, E. A., & Reyes, Y. M. (2023). Análisis bibliométrico sobre estudios de la neurociencia, la inteligencia artificial y la robótica. *Salud, Ciencia y Tecnología, 3*, 75-85. https://doi.org/10.56294/saludcyt2023362

Sánchez Osorio, I. A. (2023). Inteligencia artificial en la educación superior: un análisis bibliométrico. *Revista Educación Superior y Sociedad (ESS), 35*(2), 45-62. https://doi.org/10.54674/ess.v35i2.820

Suarez Gomez, J. (2024). El futuro de la educación superior: una mirada desde la inteligencia artificial. *Fedumar Pedagogía y Educación, 10*(1), 100-115. https://doi.org/10.31948/rev.fedumar10-1.art-10

Toro-Espinoza, M. F., Montalván Espinoza, J. A., & Masabanda Vaca, M. A. (2023). Aplicación de la inteligencia artificial en el aprendizaje universitario. *Revista Científica Arbitrada de Investigación en Comunicación, Marketing y Empresa REICOMUNICAR, 6*, 55-70. https://www.reicomunicar.org/index.php/reicomunicar/article/view/171

Torres Vargas, J. D. (2023). La inteligencia artificial (IA) en la educación superior: retos y oportunidades. *Dialéctica, 1*(21). https://doi.org/10.56219/dialctica.v1i21.2322

Vera, F. (2023). Integración de la inteligencia artificial en la educación superior: desafíos y oportunidades. *Revista Electrónica Transformar, 4*, 12-25. https://www.revistatransformar.cl/index.php/transformar/article/view/84

Zamora Varela, Y., & Mendoza Encinas, M. del C. (2023). La inteligencia artificial y el futuro de la educación superior: horizontes pedagógicos. *Revista de Educación y Cultura, 25*(1), 80-95. https://doi.org/10.33881/0123-8264.hop.25101

Zapata-Ros, M. (2018). La universidad inteligente: la transición de los LMS a los sistemas inteligentes de aprendizaje en educación superior. *Revista de Educación a Distancia (RED), 57*, 1-14. https://dialnet.unirioja.es/servlet/articulo?codigo=6490645

Zavala Cárdenas, E. I., Salazar Guaraca, D. I. P., Albán Yánez III, H., & Mayorga Albán, A. I. L. (2023). El rol de la inteligencia artificial en la enseñanza-aprendizaje de la educación superior. *Polo del Conocimiento: Revista Científico-Profesional, 8*(3), 3028-3036. https://doi.org/10.23857/pc.v8i3.5542