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## **Artificial intelligence in postgraduate education: Perceptions, practices, and ethical challenges in university management**

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### **ABSTRACT**

This study used a hybrid approach to analyze the impact of artificial intelligence (AI) on graduate education management at private universities in the Lima metropolitan area. Data collection methods included semi-structured interviews with four academic coordinators and questionnaires distributed to 40 professors and 200 graduate students from four private universities. The results showed that AI-based tools can support personalized learning, improve academic planning, and promote more informed decision-making. However, significant deficiencies remain in terms of technological infrastructure, systematic faculty training, and ethical guidance. The application of AI in graduate education management is still in its early stages, focusing primarily on administrative processes, student tracking, and automated data analysis, rather than pedagogical innovation. Qualitative findings highlight the crucial role of institutional leadership in fostering innovation, professional development, and ethical awareness. The study concludes that the effective implementation of AI depends on a clear institutional framework, ongoing capacity-building measures, and explicit ethical guidelines. The adoption of AI is closely linked to the institutional environment, teacher involvement, and ethical principles, which together ensure the integration of reflection, accountability, and equity.

**Keywords:** artificial intelligence, postgraduate education, educational management, higher education institutions, ethical issues in education

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### **INTRODUCTION**

Over the past decade, artificial intelligence (AI) has evolved from a technology mainly limited to computing to an interdisciplinary tool, transforming multiple dimensions of public and private higher education systems around the world (Xu, 2025). AI is generally defined as the ability of computer systems to perform tasks that require reasoning, learning, and decision-making. In higher education, its applications have expanded from educational support to academic planning, institutional assessment, learning analytics, and the design of adaptive educational experiences (Ge & Hu, 2020). These advances demonstrate that AI is not simply a technological innovation, but a strategic resource capable of transforming the way universities manage knowledge, people, and decision-making processes. By enabling real-time data analysis and predictive modeling, AI enhances universities' ability to improve efficiency, responsiveness, and evidence-based governance (Proença & Vera, 2025).

In a broader context, graduate education administration is a particularly complex and demanding field. It encompasses a range of decisions, organizational structures, and operational dynamics necessary to design, implement, and evaluate advanced training programs, often under multiple pressures, including high academic expectations, competitive pressures, and accountability requirements. design andtext, artificial intelligence (AI) has immense potential to support rational resource allocation, improve student tracking and retention, optimize curriculum

design, and enhance faculty performance through data-driven feedback systems. Despite this potential of AI in graduate education administration, relevant empirical research remains limited and fragmented, especially when compared to the increasingly abundant literature on undergraduate education or general instructional technologies (Chen & Zhang, 2023; Téllez et al., 2024).

At the institutional level, graduate coordinators have begun applying artificial intelligence (AI) technologies to process automation, academic planning, and performance analysis, thereby improving operational efficiency and the traceability of strategic decisions. Past research has shown that applying AI to resource allocation, faculty evaluation, and quality assurance can strengthen university governance, provided there is a supportive and internally accepted organizational culture (Xu, 2025; Zhang & Ilisko, 2025; Téllez et al., 2024; Vera et al., 2025). However, some scholars warn that the lack of clear regulatory policies and management training limits the impact of these technologies, reducing them to isolated solutions lacking institutional sustainability (Acevedo Carrillo et al., 2025; Proença & Vera, 2025).

From a pedagogical perspective, the literature indicates that graduate faculty are taking on more strategic roles by introducing AI, shifting from content creation to the design of personalized learning pathways (Jin et al., 2024). International evidence suggests that combining human instructional decisions with algorithmic systems can improve classroom planning and management and reduce bias in academic assessment (Liu, 2024; Stephen et al., 2025). However, resistance persists due to a lack of ethical guidelines, critical training, and institutional support, leading to a conflict between technological innovation and teacher autonomy (Jafari & Keykha, 2025; Bernilla Rodriguez, 2024; Saltos García et al., 2025).

At the student level, multiple studies report that undergraduate and graduate students frequently use AI tools, but their lack of critical understanding of how these tools operate and their risks poses challenges in terms of ethics, fairness, and learning quality (Saltos García et al., 2025; Ng et al., 2025). While existing research has shown that the use of generative virtual assistants can improve academic efficiency and facilitate interaction with faculty, studies emphasize that artificial intelligence should not replace student autonomy, but rather enhance their autonomy, critical thinking skills, and informed decision-making abilities (López Tineo et al., 2025; Valencia-Arias et al., 2023; Carmo et al., 2025).

In Peru, the Lima metropolitan area concentrates most of the country's private universities and postgraduate programs, solidifying its position as the central hub of the national university system (Etesse, 2021; MINEDU, 2023). However, the application of artificial intelligence in Peruvian higher education remains uneven, with issues such as insufficient training, regulatory restrictions, and nascent teacher adoption (Acosta-Enriquez et al., 2025). Although pilot programs have been established to promote collaborative learning and teaching innovation, evidence regarding the impact of artificial intelligence on the administration of postgraduate education remains scarce and fragmented. This situation highlights the need for comprehensive research, such as the hybrid approach proposed in this study, to analyze the impact of artificial intelligence on postgraduate education management.

Furthermore, even within the same national context, the impact and application of artificial intelligence (AI) vary between institutions. Institutional leadership, organizational culture, the availability of technological infrastructure, and stakeholder involvement significantly influence the implementation and perception of AI tools. Existing research often takes a macro perspective on higher education, neglecting the specificities of graduate courses and rarely incorporating the perspectives of key actors such as academic coordinators, faculty, and graduate students (Acevedo Carrillo et al., 2025; Bernilla Rodriguez, 2024). This gap is particularly pronounced in Latin America, where empirical research on AI-driven educational administration remains scarce and lacks in-depth exploration of specific contexts.

In Peruvian private universities, the rapid digital transformation of higher education has not been consistently accompanied by a solid institutional framework, systematic professional development, or clear ethical guidelines for the use of artificial intelligence (AI). As a result, the integration of AI tends to be uneven, focusing more on administrative tasks or isolated initiatives than on comprehensive strategies aligned with pedagogical and ethical considerations. The lack

of mixed-methods research capable of capturing both quantitative trends and qualitative perspectives further limits our understanding of the impact of AI on graduate education management practices.

In this context, this study seeks to analyze the impact of AI integration on graduate education management in private universities in the Lima metropolitan area, using a mixed-methods approach that incorporates the perspectives of students, faculty, and academic coordinators. Through this research, we seek to provide contextualized empirical evidence and offer perspectives for building more reflective, strategic, and ethically grounded models of graduate education management.

## **METHOD**

This study employs a hybrid approach, with a parallel design and integration in the final stage, to simultaneously examine the quantitative and qualitative aspects of the application of artificial intelligence (AI) in graduate education administration. This design allows for the evaluation of quantifiable perceptions and contextualized interpretations among key members of the graduate academic community, including students, faculty, and educational administrators (Bazeley, 2024).

The quantitative phase involved two groups. First, 40 graduate faculty members participated (10 from each of four private universities in Peru). Participants were selected through non-probability sampling based on their accessibility and professional experience. Data collection used a tool developed by Acosta-Enriquez et al. (2025), originally designed to evaluate the sustainable application of AI in Peruvian higher education. The questionnaire contained 28 items and was measured using a five-point Likert scale, assessing six dimensions: attitudes toward AI, biases, institutional support, usage habits, ethical awareness, and sustainability of use. The original questionnaire demonstrated good psychometric properties, including high internal consistency ( $\alpha > 0.86$ ) and good convergent validity ( $AVE > 0.50$ ).

Meanwhile, 200 graduate students (50 from each university) completed an adapted version of the same questionnaire. The project was reformulated while retaining the original dimensions to reflect students' experiences using AI tools, their perceptions of the digital environment within their institutions, and the impact of AI on their academic training. The adapted questionnaire was validated by expert review and showed good results. Both questionnaires were distributed online and completed independently by respondents.

Quantitative data were analyzed using descriptive and inferential statistical methods, including calculation of the mean, frequency, and standard deviation. The reliability of the questionnaires was validated using Cronbach's alpha coefficient, and both questionnaires had Cronbach's alpha coefficients greater than 0.80. The qualitative research phase included semi-structured interviews with four academic coordinators of graduate students, one from each participating university. The interview guidelines contained eight questions, based on the model proposed by Bagherimajd and Khajedad (2025), and incorporated the roles of educational management, developing three dimensions: organizational structure (leadership, institutional planning, and technology integration decisions), curriculum (integration of AI into curriculum design), and continuing education (teacher development and digital professional growth policies).

The interview data were analyzed using a hybrid approach to theme coding, combining deductive and inductive coding based on predefined theoretical dimensions to capture emerging themes (Hernández and Mendoza, 2018). Open coding was used, and the resulting categories were grouped by type of actor to identify recurring patterns. The integration of quantitative and qualitative findings contributes to a deeper understanding of the explanatory factors and ethical, structural, and pedagogical contradictions related to the integration of artificial intelligence.

All participants gave their digital informed consent, and ethical principles were strictly adhered to, ensuring confidentiality, voluntary participation, and responsible handling of personal data.

**FINDINGS AND DISCUSSION**

**Findings**

The quantitative findings are presented in Table 1 for postgraduate students and Table 2 for postgraduate teachers. The results are organized into six dimensions: attitude toward AI, prejudice toward AI, institutional conditions, use of AI, perception of the teaching environment, and ethical perception.

**Table 1. Results of the questionnaire for postgraduate students**

Dimension	Item	In agreement (%)
Dimension: Attitude toward AI	1. I believe that using AI helps me learn more efficiently.	87.5
	2. I find it motivating to use AI to support my studies.	85.0
	3. AI allows learning to be tailored to my individual needs.	85.0
	4. I would like to see more AI integrated into my graduate courses.	90.0
Dimension: Prejudice toward AI	5. I am wary of automated recommendations made by AI systems.	37.5
	6. I avoid using AI because I feel it replaces human contact in teaching.	47.5
	7. I believe that excessive use of AI can affect my critical thinking.	40.0
Dimension: Institutional conditions	8. I prefer traditional classes to relying on intelligent systems.	50.0
	9. The university offers a good infrastructure for the use of AI technologies.	37.5
	10. I have access to technical support if I need help with platforms that use AI.	45.0
	11. My teachers know how to use AI in their teaching.	80.0
Dimension: Use of AI	12. I have seen that the university promotes the ethical use of AI.	55.0
	13. I have received AI-generated feedback on an assignment or assessment.	67.5
	14. I use AI to organize my schedule or prepare for my classes.	80.0
	15. I have used virtual assistants or adaptive platforms during my studies.	77.5
	16. AI has improved my academic performance.	65.0
Dimension: Perception of the teaching environment	17. I frequently use educational tools that work with AI.	75.0
	18. I know how to use at least one AI tool for my studies.	80.0
	19. I have noticed that some teachers are wary of AI.	75.0
	20. Some teachers are not convinced of the usefulness of these tools.	85.0
	21. I feel that the teachers' attitude influences my attitude towards AI.	40.0
Dimension: Ethical perception	22. I do not perceive the university to be actively promoting the use of AI.	47.5
	23. There is a gap between the university's technological capabilities and what is applied in class.	70.0
	24. I am concerned about how my personal data is used in AI environments.	87.5
	25. I believe that some AI can discriminate depending on how it was trained.	80.0
	26. I don't always know how the system makes its decisions.	60.0
	27. I think the use of these tools should be better regulated.	85.0
	28. More information is needed about the risks of using AI in education.	92.5

Note: The labels represent the total percentage of respondents who selected “agree” or “strongly agree” on the five-point Likert scale. The questionnaire was distributed online to graduate students at four private universities in the Lima metropolitan area.

Table 1 presents the results for postgraduate students, while Table 2 presents the results for postgraduate teachers.

**Table 2. Results of the questionnaire for the postgraduate teachers**

Dimension	Item	In agreement (%)
Dimension: Attitude toward AI	1. I believe that AI improves the effectiveness of my teaching processes.	100.0
	2. I am motivated to incorporate AI-based tools into my classes.	100.0
	3. I believe that AI can be adapted to students' needs.	100.0
	4. I am interested in continuing to explore AI in education.	100.0
Dimension: Prejudice toward AI	5. I am wary of the automated decisions offered by AI.	52.5
	6. I avoid using AI because it could replace professional teaching judgment.	35.0
	7. I believe that the use of AI limits the development of critical thinking in the classroom.	35.0
	8. I prefer traditional methods over AI-driven tools.	22.5
Dimension: Institutional conditions	9. The institution provides adequate infrastructure to implement AI in teaching.	65.0
	10. I receive sufficient technical support to use AI technologies.	45.0
	11. My colleagues are trained to integrate AI into their teaching practices.	57.5
	12. There are institutional spaces to discuss the ethical use of AI in teaching.	45.0
Dimension: Use of AI	13. I have used AI to evaluate assignments or provide automated feedback.	62.5
	14. I use AI tools to plan lessons or generate content.	77.5
	15. I have used virtual assistants or adaptive platforms with AI.	60.0
	16. AI has had a positive impact on the quality of my teaching.	85.0
	17. I frequently use educational tools that incorporate AI.	80.0
	18. I have functional mastery of at least one AI tool applied to teaching.	80.0
Dimension: Perception of the teaching environment	19. I perceive resistance among teachers toward the use of AI.	47.5
	20. Some teachers express skepticism about intelligent systems.	32.5
	21. The institutional attitude influences teachers' willingness to adopt AI.	62.5
	22. The pedagogical use of AI is not actively promoted by academic coordination.	62.5
	23. There is a disconnect between institutional strategy and teaching practices.	50.0
Dimension: Ethical perception	24. I am concerned about the processing of personal data on AI platforms.	72.5
	25. I believe that some AI tools may incorporate biases or inequalities.	47.5
	26. I doubt the transparency with which educational algorithms are designed.	35.0
	27. Clear regulations are needed on the use of AI in university contexts.	72.5
	28. More training opportunities are needed regarding the risks and limitations of these technologies.	77.5

Note: Note: Percentages represent the total proportion of respondents who selected “agree” or “strongly agree” on the five-point Likert scale. The survey was conducted online and targeted postgraduate teachers at four private universities in the Lima metropolitan area

For graduate students, the findings are summarized in Table 1 and organized according to six analytical dimensions. Overall, the results reflect a high level of engagement among graduate students with artificial intelligence (AI), accompanied by institutional and ethical concerns about its impact on cognition and the student experience. In terms of attitudes toward AI, the results show that students generally maintain a positive attitude. Most believe that AI is a tool that can improve learning efficiency, increase motivation for learning, and support personalized learning

processes. In addition, students explicitly requested more comprehensive integration of AI into graduate courses.

Regarding biases against AI, the results show that students have a moderate level of skepticism. A significant proportion of students expressed reservations about automated recommendations, the potential reduction of interpersonal interaction in instruction, and the possible negative impact on critical thinking.

In terms of institutional conditions, the data shows a significant gap between teaching capacity and organizational support. While most students believe that their teachers have the necessary skills to use AI, fewer believe that the technological infrastructure and support are adequate. In addition, students generally felt that schools have made limited efforts to promote the ethical application of artificial intelligence (AI).

In terms of AI application, the survey results indicate that students use AI tools extensively and frequently. Students reported using AI for academic organization, accessing virtual assistants, and receiving automated feedback, and many students felt an improvement in their academic performance.

Regarding the teaching environment, students noted that faculty were highly skeptical of AI and perceived a gap between the school's technological capabilities and classroom applications. These opinions highlight the impact of teaching practices and attitudes on students' experiences with AI.

Finally, in terms of ethical awareness, the survey results revealed strong concern among students. They expressed concern about personal data protection, algorithmic bias, and transparency in AI-driven systems. In particular, they called for clearer regulations and easier access to information about the risks of AI applications in education.

About the results in the Table 2, teachers showed a very positive attitude towards artificial intelligence (AI). All respondents believed that these technologies could improve teaching efficiency, increase teacher motivation, and better meet the needs of students. In addition, all expressed interest in further exploring the application of AI in education.

However, this acceptance was accompanied by some bias or caution. More than half of the faculty expressed mistrust of automated decision-making generated by AI systems, and nearly a third expressed concern that AI could replace the professional judgment of faculty or limit the development of critical thinking in the classroom. Nevertheless, only a small number of teachers indicated a preference for traditional teaching methods over AI tools.

In terms of institutional conditions, the survey results revealed divergent opinions. A significant number of teachers valued the technological infrastructure available to implement AI in teaching, but less than half considered the technical support provided by the school or formal platforms for discussing the ethical use of these tools to be adequate. Similarly, just over half of teachers believed that their colleagues had received the necessary training to integrate AI into teaching practices.

Regarding the use of AI, teachers reported actively integrating it into their daily teaching practices. A significant number of teachers reported using AI to assess assignments, provide automated feedback, prepare lessons, and generate instructional content. Most teachers reported mastering at least one AI-based educational tool and considered its application to have a positive impact on the quality of teaching.

Perceptions of the teaching environment revealed tensions related to institutional culture. Nearly half of teachers reported resistance to AI among their colleagues, and more than 60% felt that the institution's attitude significantly influenced their willingness to adopt it. In addition, a similar proportion of respondents felt that academic coordination bodies did not actively promote the application of AI in teaching, and half pointed to a disconnect between institutional strategies and teaching practices.

Finally, ethical awareness emerged as a highly relevant dimension. Most respondents expressed concern about the handling of personal data on AI platforms and the lack of clear oversight in the university setting. Likewise, a significant proportion of respondents expressed skepticism about the transparency of educational algorithms and pointed to the need for more training opportunities on the risks and limitations of these technologies.

Regarding the qualitative research findings, graduate academic coordinators unanimously agreed that artificial intelligence (AI) should be gradually integrated into key organizational processes. This integration is primarily reflected in academic and administrative functions, such as admissions management, curriculum planning, processing of faculty evaluation surveys, and monitoring of student academic performance. Coordinators stated that these applications shorten operating time and improve the traceability of strategic decisions.

In terms of academic leadership, coordinators emphasized that the institution's commitment to AI applications is reflected in creating an environment conducive to pedagogical innovation, faculty development, and the ethical use of these technologies. Furthermore, the application of AI in processes such as admissions, academic advising, and quality assurance is becoming increasingly frequent. Particularly noteworthy are the automated analysis of student surveys, systematic monitoring of academic performance, and the activation of early warning systems to detect potential dropout cases.

Coordinators noted that AI has been incorporated as an interdisciplinary theme across related disciplines such as educational innovation, collaborative work, and practical case problem-solving. In some cases, this integration stems from more systematic planning that includes specific content regarding the application of artificial intelligence in teaching, ethics, and professional fields. Similarly, institutions have initiated processes to review curriculum and competency requirements to address the needs of this new landscape, developing professionals' abilities to address ethical dilemmas, interpret automated data, and design technology-assisted educational strategies. Furthermore, artificial intelligence is beginning to be used as a supplementary resource for curriculum design and textbook development.

Regarding continuing education, coordinators highlighted the development of specific training programs, including workshops and certifications for tools such as ChatGPT, Copilot, and Canva Magic. These initiatives cover both technical and instructional applications, addressing the ethical challenges of using artificial intelligence in the classroom. For some coordinators, these processes have been key to overcoming initial resistance from more conservative faculty, facilitating the promotion of more flexible, technology-assisted teaching practices. Regarding institutional policy, they stated that their respective universities have begun developing guidelines for the strategic use of artificial intelligence. In some cases, these regulatory frameworks are still under discussion or validation, while in others, operational guidelines have been developed to ensure the responsible use of artificial intelligence and its alignment with academic objectives.

## **Discussion**

This study confirms the transformative potential of artificial intelligence (AI) in postgraduate education management, while also highlighting the structural, pedagogical, and ethical challenges that limit its effective application. At the institutional level, both quantitative and qualitative findings indicate that AI is increasingly being integrated into academic and administrative processes, particularly in planning, performance monitoring, and decision support. This trend aligns with previous research demonstrating that AI applied to resource allocation, faculty evaluation, and quality assurance can enhance university governance and operational efficiency (Xu, 2025; Téllez et al., 2024; Vera et al., 2025). However, assessments of institutional conditions are relatively conservative, particularly regarding technological support and ethical frameworks. This echoes the warnings of Acevedo Carrillo et al. (2025) and Proença and Vera (2025) that the indiscriminate adoption of technology without a robust organizational structure often leads to fragmented and unsustainable implementation.

From a pedagogical perspective, survey results among postgraduate faculty show a generally positive attitude towards AI, with a consensus that it can improve teaching efficiency and adapt to student needs. This finding supports the view of Jin et al. (2024) that the role of instruction is shifting towards a more strategic function, closely related to the design of personalized learning pathways. However, both teachers and students maintain reservations about automated decision-making, expressing concerns about its potential impact on professional judgment and critical thinking. This suggests a tension between technological innovation and instructional autonomy, a tension documented in the literature (Jafari & Keykha, 2025; Bernilla

Rodriguez, 2024). In this sense, embracing artificial intelligence does not mean uncritical adoption, but rather a process influenced by ethical and professional considerations.

At the student level, the results in Table 1 show that the use of AI tools is very frequent and widespread, primarily for supporting academic organization, learning, and performance improvement. This pattern aligns with previous research findings that report the widespread application of AI in higher education (Saltos García et al., 2025; López Tineo et al., 2025). However, the significant ethical concerns expressed by students, particularly regarding data protection, algorithmic bias, and system transparency, highlight the gap between the widespread adoption of this technology and a critical understanding of how it works. This finding supports the arguments of Ng et al. (2025) and Carmo et al. (2025), who warn that without clear ethical and digital literacy training, artificial intelligence could exacerbate inequality and limit students' ability to make informed decisions.

The specific situation in Peru further reinforces the significance of these findings. Despite the concentration of most of the country's private universities and graduate programs in the Lima metropolitan area, the application of artificial intelligence is uneven, influenced by training gaps, regulatory ambiguity, and the fact that most faculty members are still in the early stages of understanding and applying artificial intelligence (Acosta-Enriquez et al., 2025). The gap between the personal willingness of faculty and students and institutional capacity aligns with research reports from Latin America that identify structural constraints as one of the major obstacles to the digital transformation of higher education (Bernilla Rodriguez, 2024). Considering this, this study employs a hybrid approach, integrating the perspectives of students, faculty, and academic coordinators, thereby providing new empirical evidence, a method that remains uncommon in the literature.

## **CONCLUSION**

This study aims to analyze the impact of artificial intelligence (AI) on the educational management of postgraduate courses at a private university in the Lima metropolitan area, employing a hybrid approach that integrates the perceptions of students, faculty, and academic administrators. Triangulation of the findings reveals a consensus on the potential of AI to improve academic efficiency, accelerate decision-making, and enhance educational support processes.

Furthermore, this study also identified shared ethical concerns among students and faculty, particularly regarding the opacity of algorithms, the handling of personal data, and the risk of dehumanizing the educational process.

From an institutional perspective, the results indicate insufficient implementation of AI, specifically limitations in infrastructure, technological support, and space for ethical discussion. Feedback from academic coordinators indicates some progress in AI within education, such as process automation and the implementation of training programs. However, these measures still lack a strategic framework to promote their institutional consolidation.

Overall, this research demonstrates that AI is reshaping key processes in postgraduate education administration, such as academic planning, performance monitoring, and quality assurance. Finally, it is recommended that future research delve into public policies related to artificial intelligence in Peruvian higher education. Furthermore, the role of teaching communities in constructing collective knowledge about AI ethics and its application in teaching should be explored, as well as the impact of AI on professional autonomy and the quality of postgraduate education.

## **REFERENCES**

- Acevedo Carrillo, M., Cabezas Torres, N. M., La Serna La Rosa, P. A., & Araujo Rossel, S. A. (2025). Desafíos y oportunidades de la inteligencia artificial en la educación superior latinoamericana: una revisión sistemática de la literatura. *Revista InveCom*, 6(1), 1-10. <https://doi.org/10.5281/zenodo.15508755>
- Acosta-Enriquez, B. G., Reyes-Perez, M. D., Huamani Jordan, O., Carreño Saucedo, L., Padilla-Caballero, J. E. A., Fernández-Altamirano, A. E. F., García Yovera, A. J., Briceño-

- Hernandez, R. N., & Alarcón Bustíos, J. M. (2025). Exploring the determinants of the sustainable use of artificial intelligence in Peruvian university teachers: a structural equation modeling analysis. *Sustainability (Switzerland)*, 17(7). <https://doi.org/10.3390/su17072834>
- Bagherimajd, K. & Khajedad, K. (2025). Designing a model of sustainable education based on artificial intelligence in higher education. *Computers and Education: Artificial Intelligence*, 9. <https://doi.org/10.1016/j.caeai.2025.100439>
- Bazeley, P. (2024). Conceptualizing integration in mixed methods research. *Journal of Mixed Methods Research*, 18(3), 225-234. <https://doi.org/10.1177/15586898241253636>
- Bernilla Rodriguez, E. B. (2024). Docentes ante la inteligencia artificial en una universidad pública del norte del Perú. *Educación*, 33(64), 8-28. <https://doi.org/10.18800/educacion.202401.m001>
- Carmo, J. E. S., Lacerda, D. P., Klingenberg, C. O., & Piran, F. A. S. (2025). Digital transformation in the management of higher education institutions. *En Sustainable Futures*, 9. <https://doi.org/10.1016/j.sftr.2025.100692>
- Chen, Y., & Zhang, M. (2023). Improving quality management in talent cultivation through artificial intelligence in China's private universities. *ACM International Conference Proceeding Series*, 476-488. <https://doi.org/10.1145/3616712.3616715>
- Etesse, M. (2021). Los doctorados en el Perú: Oferta, admisión y matrícula de la formación doctoral. *Superintendencia Nacional de Educación Superior Universitaria (SUNEDU)*. [https://www.ssoar.info/ssoar/bitstream/handle/document/79616/ssoar-2021-ettesse-Los\\_doctorados\\_en\\_el\\_Peru.pdf;jsessionid=46C767788041BB82DB9EB277E109303A?sequence=1#:~:text=Por%20su%20parte%2C%20en%20el,la%20oferta%20de%20programas%20doctorales](https://www.ssoar.info/ssoar/bitstream/handle/document/79616/ssoar-2021-ettesse-Los_doctorados_en_el_Peru.pdf;jsessionid=46C767788041BB82DB9EB277E109303A?sequence=1#:~:text=Por%20su%20parte%2C%20en%20el,la%20oferta%20de%20programas%20doctorales)
- Ge, Z., & Hu, Y. (2020). Innovative application of artificial intelligence (ai) in the management of higher education and teaching. *Journal of Physics: Conference Series*, 1533(3). <https://doi.org/10.1088/1742-6596/1533/3/032089>
- Hernández, R., & Mendoza, P. (2018). *Metodología de la investigación: las rutas cuantitativa, cualitativa y mixta*. McGraw-Hill Interamericana Editores. <https://books.google.com.pe/books?id=aq8y0AEACAAJ>
- Jafari, F., & Keykha, A. (2025). Identifying the opportunities and challenges of artificial intelligence in higher education: A qualitative study. <https://doi.org/10.1108/jarhe-09-2023-0426/full/html?skipTracking=true>
- Jin, Z., Goyal, S. B., & Rajawat, A. S. (2024). The Informational role of artificial intelligence in higher education in the new era. *Procedia Computer Science*, 235, 1008-1023. <https://doi.org/10.1016/j.procs.2024.04.096>
- Liu, D. (2024). Artificial intelligence technology facilitates model innovation in higher education management and student training mechanisms. *Applied Mathematics and Nonlinear Sciences*, 9(1). <https://doi.org/10.2478/amns-2024-1173>
- López Tineo, N. K. V., Reyes Tejada, G. S., Wong Lam, L. J., & Llanco Gonzales, D. I. (2025). Implementation of virtual assistants based on generative artificial intelligence created in the edu-innova laboratory to improve the teaching of teachers. *Desde el Sur*, 17(2). <https://doi.org/10.21142/DES-1702-2025-0020>
- MINEDU. (2023). La universidad en cifras. [https://repositorio.minedu.gob.pe/bitstream/handle/20.500.12799/9077/La%20Universidad%20en%20Cifras.pdf?isAllowed=y&sequence=1&utm\\_source=chatgpt.com](https://repositorio.minedu.gob.pe/bitstream/handle/20.500.12799/9077/La%20Universidad%20en%20Cifras.pdf?isAllowed=y&sequence=1&utm_source=chatgpt.com)
- Ng, D. T. K., Chan, E. K. C., & Lo, C. K. (2025). Opportunities, challenges and school strategies for integrating generative AI in education. *Computers and Education: Artificial Intelligence*, 8. <https://doi.org/10.1016/j.caeai.2025.100373>
- Proença, J. J. C., & Vera, C. R. (2025). New model to evaluate innovation in Higher Education institutions. *Ensaio*, 33(126). <https://doi.org/10.1590/s0104-40362025003304898>
- Salto García, P. A., Vasquez Rodas, A. C., Morán Castro, C. E., & Peñaherrera Andrade, R. S. (2025). The quality of higher education in the digital age: indicators, assurance models and

- the impact of artificial intelligence. *Data and Metadata*, 4, 855. <https://doi.org/10.56294/dm2025855>
- Stephen, V. K., Palanisamy, R., Muthukumarappan, A., & Kaliyamoorthy, K. (2025). Design and application of teaching system using artificial intelligence technology. *International Conference for Artificial Intelligence: Applications, Innovation and Ethics, AI2E 2025*. <https://doi.org/10.1109/AI2E64943.2025.10983567>
- Téllez, A. R., Ortiz, L. M. F., & Domínguez, F. C. T. (2024). Artificial intelligence in university administration: an overview of its uses and applications. *Revista Interamericana de Bibliotecología*, 47(2). <https://doi.org/10.17533/udea.rib.v47n2e353620>
- Valencia-Arias, A., Gómez-Bayona, L., Moreno-López, G., Sialer-Rivera, N., Bernal, O. V., Gallegos, A., & Arias-Vargas, F. J. (2023). Research trends around open innovation in higher education: advancements and future direction. *En Frontiers in Education*, 8. Frontiers Media SA. <https://doi.org/10.3389/feduc.2023.1146990>
- Vera, E. D. M., Chacón-Castro, M., Diaz, I. P., & Jadán-Guerrero, J. (2025). Educational management as an ensure of high-quality standards, focused on the added value of a public university. *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 15347 LNCS, 463-475. [https://doi.org/10.1007/978-3-031-77738-7\\_38](https://doi.org/10.1007/978-3-031-77738-7_38)
- Xu, X. (2025). AI optimization algorithms enhance higher education management and personalized teaching through empirical analysis. *Scientific Reports*, 15(1), 10157. <https://doi.org/10.1038/s41598-025-94481-5>
- Zhang, W., & Ilisko, D. (2025). AI-driven innovation in educational management: A multi-case study of Chinese higher education institutions. *Edelweiss Applied Science and Technology*, 9(4), 2109-2128. <https://doi.org/10.55214/25768484.v9i4.6498>