

Pedagogy professors' perspectives on the use of Artificial Intelligence in Academic work*¹

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Abstract

The advancement of Artificial Intelligence (AI) in the educational context has generated debates about its impact on academic work. This study addresses the research question: how do pedagogy professors guide their students on the use of AI in academic work, and what challenges and strategies emerge from this process? The objective of this study is to understand the perceptions of education professors regarding the use of AI in academic work, considering the possible benefits and concerns. This qualitative case study used an online questionnaire administered to 22 professors from a public university in Ceará, exploring their views on AI and their use of the technology. The data were analyzed using Bardin's (1997) content analysis technique. The results indicate that, even though many professors recognize the potential of AI to optimize academic processes, there are significant concerns regarding originality, ethics, and the impact on students' critical thinking. The lack of specific training and the absence of clear institutional guidelines emerge as the main obstacles to the effective adoption of AI in higher education. It can facilitate the personalization of teaching and the automation of tasks, but ethical and pedagogical challenges stand out, requiring greater faculty preparation. There is a need for institutional policies aimed at training professors to promote the critical and responsible implementation of AI in teaching. Finally, it is also recommended to study AI tools and adopt active methods and debates on ethics and authorship, promoting the conscious use of this technology.

Keywords

Artificial Intelligence – Higher education – Academic work – Teaching practice – Academic writing.

* English version by Thiago Moreira. The authors take full responsibility for the translation of the text, including titles of books/articles and the quotations originally published in Portuguese.

1- Data availability: Both the questionnaire and the data organized using Excel software, version 2501, were made available in the *Zenodo* repository, with open access and DOI (<https://doi.org/10.5281/zenodo.15540070>).

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Introduction

Over the past few years, Artificial Intelligence (AI) has become a central theme in the educational debate, particularly in higher education. Its application in academic work and in teaching and learning processes generates both opportunities and challenges, demanding a critical and structured approach by professors. AI technologies encompass systems and algorithms capable of simulating human intelligence, including data-driven learning, logical reasoning, and interaction with the environment, especially in educational institutions (Fadel *et al.*, 2024).

The integration of AI into the educational processes of these institutions requires an in-depth analysis of professors' perceptions of its impact on students' academic training. UNESCO (2023), and its guide on generative AI (GenAI) in education, emphasizes the need to develop AI competency among students to ensure safe and ethical use. It also recommends that countries adapt their guidelines to their specific needs, ensuring that professors receive adequate training to effectively integrate technology into their pedagogical practices. It also asserts that AI is recognized as a valuable resource for curriculum design, lesson planning, and academic research, but its adoption requires a critical approach. Validation, monitoring, and responsible use of AI systems are therefore essential to guarantee their ethical and pedagogically appropriate application.

The growing presence of AI in education demands that professors reflect on its impact on students' academic development and how to integrate it critically and productively. This is because AI is capable of analyzing large datasets, tailor instruction to students' individual needs, and automate administrative tasks. This potential promises to enhance educational outcomes and make learning more personalized and accessible (Duque *et al.*, 2023). Even so, it also raises ethical and privacy concerns that lead to strong criticism of its uncritical adoption in higher education.

In this context, understanding professors' perceptions of the use of AI in higher education is crucial, as they play a central role in the implementation and regulation of this technology within academic contexts. Recent studies (Cachapa *et al.*, 2024; Fialho; Neves; Nascimento, 2024; Lima; Ferreira; Carvalho, 2024; Moser *et al.*, 2024; Nascimento *et al.*, 2024; Rebelo, 2023) reveal both enthusiasm and caution among professors: while they acknowledge AI's potential to enhance pedagogical practices, they also express concerns about its impact on autonomous learning and the cultivation of students' critical thinking skills.

Souza, Rodrigues, and Ribeiro (2023) highlight the need to reformulate pedagogical practices and institutional strategies to ensure the responsible integration of AI. Similarly, Cachapa *et al.* (2024) demonstrate that professors' perceptions of AI are shaped by their professional experience and technological expertise, underscore the relevance of continuous training programs. Fonseca (2019) adds that structural and cultural barriers to adopting Information and Communication Technologies (ICT) in initial teacher education remain significant, directly influencing how new technologies – AI included – are incorporated into higher education.

Nascimento *et al.* (2024) argue that active methods mediated by digital technologies can serve as an alternative to foster the critical and innovative use of AI, promoting more dynamic and participatory teaching. Likewise, Fialho, Neves, and Nascimento (2024)



contend that AI can enhance students' creativity in virtual environments, enabling new approaches to knowledge construction. Conversely, Lima, Ferreira, and Carvalho (2024) caution against ethical and privacy risks, recommending clearer regulation of these tools.

Although these studies indicate that the adoption of AI in higher education generate significant benefits, faculty development remains a decisive factor for its successful implementation. An insufficient preparation may hinder both effective and ethical use. As emphasized by Blaszkó, Claro, and Ujiie (2021), Fonseca (2019), and Souza, Rodrigues, and Ribeiro (2023), it is essential that professors be trained to integrate technology critically and consciously into their teaching practices. Without such training, they may struggle to fully leverage AI's potential, resulting in superficial applications that fail to meet students' needs or uphold ethical principles.

Based on this research that underscores the importance of adequate training for the responsible and effective use of AI, this study addresses the following research question: how do professors in Pedagogy programs guide their students in the use of AI for academic work, and what challenges and strategies emerge from this process? With this aim, a survey was conducted to capture professors' perceptions of AI in academic work, considering both potential benefits and concerns.

The study involved 22 higher education professors teaching in a Pedagogy program, who responded to an online questionnaire about AI in education. The research aimed to provide a comprehensive understanding of how professors employ—or refrain from employing—AI in their teaching practices, as well as the factors influencing their decisions. The findings highlight the tension between enthusiasm and caution in the use of AI in higher education and reinforce the need for continuous faculty development and institutional policies that promote its ethical, critical, and innovative integration.

Method

This study employs a qualitative, descriptive, and cross-sectional design. According to Minayo (2012), qualitative research is particularly suitable when it enables the problematization of theories and hypotheses, as well as the understanding, interpretation, and discussion of human and social experiences, values, and attitudes. Guided by this principle, the investigation prioritized the depth and quality of discussions and non-generalizable analyses over quantitative aspects, focusing on the use of AI among 22 professors in a Pedagogy program at a public university in Ceará's capital.

The university, located in Fortaleza, was chosen because it offered openness to research, facilitated access for researchers, and presented average technological infrastructure compared to most Brazilian higher education institutions. To preserve confidentiality and avoid compromising the institution's image, the university's name was withheld to ensure confidentiality and protect respondents' employment relationships.

Data collection was conducted via an online questionnaire, designed on the Google Forms platform and distributed through institutional email and WhatsApp groups between October 1 and November 30, 2024. The questionnaire was sent to approximately 90 professors; however, due to heavy workloads and multiple academic demands, only



22 completed it in full, thereby forming the final participant group. Inclusion criteria required participants to be actively teaching undergraduate courses in the Pedagogy program during the research period. Professors on leave or those who failed to respond by the end of the data collection period were excluded.

The instrument contained 20 questions, 16 of which were multiple choice and four were open-ended. The first set of questions aimed to outline the sociodemographic profile of the participants, addressing aspects such as age, gender, academic qualifications, length of teaching experience, prior knowledge of AI, possible training, and ways of using AI. The remaining questions addressed familiarity with AI tools, perceptions of their impact on teaching, potential benefits, and main concerns.

To ensure the validity of the questionnaire, Gil's (2002) recommendation was followed, applying a preliminary test with two professors from the same course and institution as the main participants. Their feedback led to the reformulation of three statements. Following validation, the final version was administered to the study participants. Both the questionnaire and the organized dataset (Excel software, version 2501), were made available in the *Zenodo* repository, with open access and DOI (<https://doi.org/10.5281/zenodo.15540070>).

Data were analyzed using Bardin's (1997) content analysis, comprising pre-analysis (floating reading and data preparation), exploration (coding into thematic units based on frequency and semantic/expressive criteria), and treatment of results (interpretation and critical discussion).

All research procedures strictly adhered to the ethical guidelines established by Resolution No. 510/2016 of the Brazilian National Health Council (CNS) and the "*Guidelines for Procedures in Research with Any Stage in a Virtual Environment*" issued by the National Research Ethics Commission on February 24, 2021 (Brazil, 2016, 2021). The study was approved under Opinion No. 6,456,552/2023, and the Free and Informed Consent Form (FICF) was embedded in the questionnaire introduction, ensuring participants' rights to decline participation and seek clarification from the researchers.

The methodological approach aimed to ensure reproducibility, allowing the study to be replicated in other contexts. This contributes to diverse and well-founded comparative analyses and fosters critical reflection on the challenges and emerging demands of professional training for the use of AI in higher education.

Results and discussion

The analysis of professors' responses concerning the use of AI in academic work reveals a set of perceptions, concerns, and suggestions regarding the role of such tools in higher education. To contextualize these perspectives, it is important to first consider the profile of the study participants, all of whom were professors in a Pedagogy program at a public university in Fortaleza, Ceará.

Among the 22 participants, 15 were women and seven were men, all identifying as cisgender, with a mean age of 48. In terms of academic qualifications, eight held doctoral degrees, nine master's degrees, and five postdoctoral degrees, reflecting a high level of

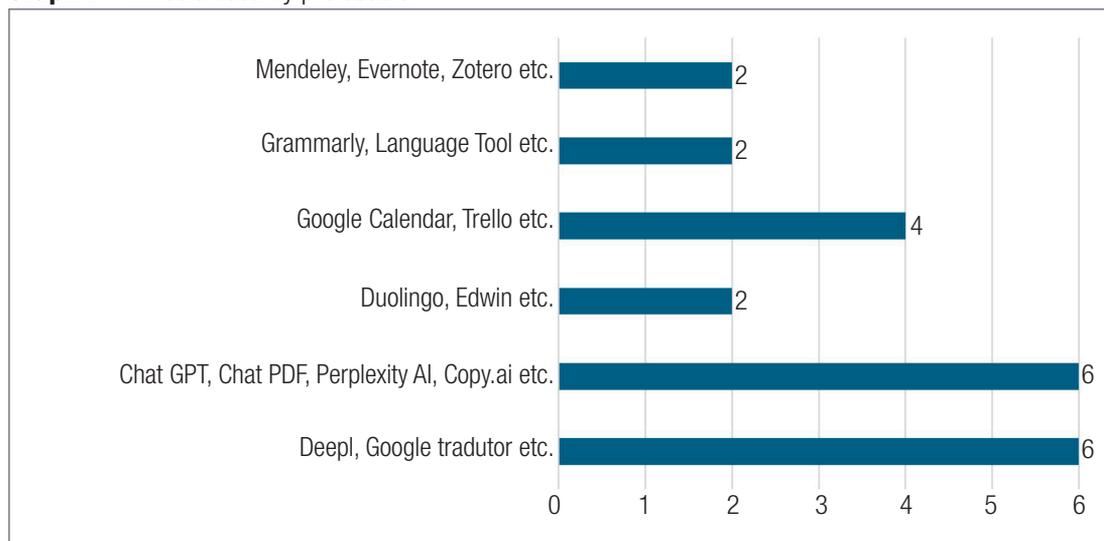
professional training. Teaching experience in higher education ranged from one to 33 years: five professors had up to five years of experience, eight between six and 15 years, four between 16 and 25 years, and five more than 25 years, indicating a broad diversity of academic trajectories.

The content analysis identified seven thematic categories: AI tools used and cited by professors; participation in training on AI tools and level of comfort with their use; effectiveness, autonomy, and impacts on creativity; effects of AI on academic performance and the potential replacement of the academic advisor; the need for ethical discussion and a critical approach; benefits and concerns regarding AI use; and institutional and training demands.

AI tools used and cited by professors

Regarding the use of AI in their academic practices, only six professors reported employing such tools to support text production, time management, or writing enhancement, as illustrated in Graph 1.

Graph 1 – AI tools used by professors



Source: Prepared by the authors (2025).

Translation tools, such as DeepL and Google Translate, as well as tools that generate automated responses, including ChatGPT, ChatPDF, Perplexity AI, and Copy.ai, were identified as the most widely used. Translation tools are primarily employed for rendering articles, abstracts, and bibliographic references into other languages, thereby facilitating access to international academic publications (Silva & Pires, 2024). In turn, tools that generate automated responses are used to support the production of academic texts, abstracts, and summaries, as well as to aid in the formulation of questions that stimulate further exploration of content (Fialho, Neves, & Nascimento, 2024).



The use of digital platforms for organization and planning was also reported by four professors, who highlighted the role of applications such as Google Calendar and Trello in managing time and structuring academic activities. These platforms enable the creation of deadline reminders, the design of personalized schedules, and the organization of research projects, thereby contributing to greater efficiency in task management (Soares et al., 2020).

Only two professors reported using AI-based tools for language learning, such as Duolingo and Edwin. Such tools are considered valuable for enhancing linguistic proficiency, which may in turn facilitate the reading and writing of academic works in additional languages. Similarly, only two participants mentioned employing tools for grammatical and stylistic correction, such as Grammarly and LanguageTool, despite the widespread use of these resources for text revision, spelling correction, and improving the cohesion and clarity of academic writing (Fitria, 2021).

As noted by Blaszkowski, Claro, and Ujii (2021), the integration of active methodologies with AI can foster more dynamic and interactive learning environments in which students not only acquire knowledge but also develop essential 21st-century skills, including collaboration, critical thinking, and adaptability to new technologies. Thus, the combined use of these methodologies and tools has the potential to transform educational experiences, rendering them more personalized, effective, and relevant.

Drawing on the UNESCO guide (2023), it is important to note that while these tools hold considerable potential to transform education and research, their implementation requires careful evaluation regarding accessibility, open-source availability, and rigorous validation by relevant authorities. The guide also emphasizes the need for critical use of such technologies, recognizing their limitations and potential risks, including the reinforcement of existing biases and the generation of inaccurate information.

Participation in training on AI tools and levels of comfort in their use

The data reveal a heterogeneous scenario concerning both participation in training initiatives related to AI and the degree of comfort with its application. To provide greater clarity, Table 1 presents the emerging units of record identified within this category.

Table 1 – Record units on AI in relation to training

Units of Analysis	With training	Without training
Comfort in using AI	High comfort and confidence in use	Hesitation and apprehension in use
Effectiveness of AI	Perception of increased learning quality	Perception of dependence and potential for poor performance
Ethical discussion	More conscious and critical use of AI	Irresponsible practices and greater risk of academic dishonesty
Advantages and disadvantages	Recognition of advantages, such as time optimization	Focus on disadvantages, such as decreased creativity
Academic performance and skills	Positive development of critical skills	Concern about the impoverishment of students' skills

Source: Prepared by the authors (2025).



Nine professors reported having participated in workshops, courses, or webinars on AI, whereas 13 stated that they had not yet had the opportunity for training. In the latter case, the absence of participation was justified by skepticism regarding the effectiveness of AI tools in improving the quality of academic works. This hesitation, as the lack of training seems to contribute to professors' discomfort and resistance to the educational use of AI. Yet, knowledge acquisition is essential for a critical and responsible analysis of AI and its implications for the educational landscape.

This scenario underscores the need for proactive institutional actions aimed at offering training opportunities and reflective discussions on the pedagogical application of AI. Such initiatives could increase professors' confidence and comfort in adopting these technologies. Professors reported three levels of comfort in using AI in academic guidance and production processes: eight reported feeling comfortable, nine neutral, and five uncomfortable.

According to Duque et al. (2023), training is essential for professors' confidence in adopting AI into their teaching practices. A lack of preparation can result in hesitant adoption or even complete avoidance of available tools. Conversely, professors who engage in structured AI training report feeling more empowered to navigate the inevitable presence of these technologies in students' academic education.

Nascimento and Brito (2023) further argue that continuous training in technology should constitute an essential dimension of teaching practice. In their view, ongoing professional development ensures that professors adopt new tools consciously and productively, in line with ethical principles and with a view to fostering deeper and more critical learning. Similarly, Souza, Rodrigues, and Ribeiro (2023) stress the importance of continuing education as a means of preparing professors to integrate AI critically and ethically into their pedagogical work. They caution against technological dependency, which could undermine academic autonomy, while acknowledging AI's potential to expand opportunities for personalized learning. These authors also highlight the need to pay close attention to inequalities in access to technology to ensure that AI implementation occurs inclusively.

Effectiveness, autonomy, and impacts on creativity

The analysis of aspects related to autonomy, control, and creativity reveals significant links between professors' perceptions of AI and its potential implications for student education.

With regard to autonomy, 14 professors pointed out that AI does not fully respect students' independence and may compromise their ability to control their own decisions in the learning process. This concern suggests that excessive use of AI can create an environment in which students feel less empowered to make decisions and take active steps in developing their knowledge. However, the same 14 professors recognized that, when used properly, AI can act as a valuable tool, optimizing time spent on administrative tasks and assisting in the generation of ideas. In these cases, as stated by Fialho, Neves, and Nascimento (2024), it can help overcome creative barriers and enhance academic output, provided it is situated within a context that promotes critical thinking and student autonomy.



When considering creativity, 17 professors expressed concern that the use of AI could diminish students' creative capacities. They warned that dependence on such tools may foster passivity, shifting responsibility for original thinking onto technology. This raises important questions regarding the role of AI in shaping critical and independent learners, especially since creativity and originality are fundamental to academic identity formation and intellectual development (Duque *et al.*, 2023).

The perceived erosion of creativity appears closely tied to diminished autonomy, as students' innovation potential is directly connected to their control over learning. Rebelo (2023) similarly cautions against excessive reliance on AI, emphasizing that the generation of ideas or solutions by technological means should not discourage students from pursuing innovative approaches or undermine their autonomy. This dynamic should not limit the development of critical thinking in students, since creativity is a central element of analytical and reflective thinking (Brandenburg; Pereira; Fialho, 2019).

Given these concerns, professors advocated for an educational approach that extends beyond the transmission of knowledge, fostering instead the development of independent and critical thinkers. To mitigate the possible negative impacts of AI on creativity, they emphasized the importance of cultivating learning environments that encourage reflection on AI use and actively promote student autonomy. This debate is essential for the development of pedagogical strategies that integrate AI in a balanced way, ensuring efficiency in learning without compromising students' creativity and critical abilities (Souza; Rodrigues; Ribeiro, 2023).

Many professors also acknowledged AI's potential to enhance personalized learning. Fourteen respondents noted that, when applied responsibly, AI can address individual learning needs by providing tailored content and adapting activities to students' knowledge levels and learning paces. As Fadel *et al.* (2024) argue, personalization may involve anything from recommending study materials to adapting assessments, thereby aligning learning processes with students' specific challenges and interests.

Nevertheless, 19 professors stressed that the effectiveness of personalization depends heavily on the training of both professors and students. Among the professors surveyed, ten participants emphasized that professor preparation is crucial for ensuring that AI is used ethically and productively in education. As claimed by Moser *et al.* (2024), it is recommended that such training explicitly address how AI can be integrated into curricula in ways that complement teaching while fostering student autonomy.

Furthermore, eight professors cautioned that without careful monitoring, personalization risks resulting in superficial learning experiences, potentially weakening the development of critical skills required for independent knowledge application. In this regard, Lima, Ferreira, and Carvalho (2024) argue that while AI offers considerable promise, professors must remain vigilant to avoid sacrificing depth for convenience.

Another concern raised relates to ethics and equity in access to AI technologies. Six professors underscored that unequal access to digital tools risks reinforcing disparities in learning opportunities. Nascimento *et al.* (2024) echo this concern, advocating for public policies that address social inequalities and ensure equitable access to educational technologies.

Ultimately, professors' responses reveal a growing recognition of AI's potential for personalization, tempered by a strong awareness of the ethical, pedagogical, and equity-related challenges involved. They highlight the importance of careful implementation and expanded training for both professors and students, underscoring that AI should be understood as a supporting tool rather than a substitute for pedagogical mediation.

Impact of AI on academic performance and the potential replacement of academic advisors

The perception of AI's impact on academic performance and its potential to replace academic advisors reflects a central concern among professors. Fourteen respondents expressed the view that AI has a negative impact on learning, particularly when used in final course projects or when it fosters dependence on technology. Such reliance, they argued, promotes passive learning and may compromise students' intellectual development. As argued by these professors, the inappropriate use of AI can reduce interest in reading and weaken cognitive skills, resulting in less engagement with critical analysis and deep reflection—competencies essential to the training of future professors.

In line with this, 15 professors voiced concerns that AI could undermine students' critical thinking and intellectual autonomy. They warned that frequent use of these tools might discourage the development of independent research and writing skills, with negative implications for both academic and professional formation (Lima; Ferreira; Carvalho, 2024).

When asked whether AI could partially or fully replace academic advisors in the future, responses were divided: ten professors answered affirmatively, while 12 disagreed. This diversity of opinions reflects a shared concern about preserving the human dimension of academic guidance. Those who saw replacement as possible considered AI capable of delivering information and guidance quickly and efficiently. In contrast, professors who doubted such a replacement expressed skepticism about AI's ability to fully replicate the advisor's role, noting gaps in understanding of the complexities of learning and mentorship.

Fadel *et al.* (2024) emphasize that human interaction and the educator's role are irreplaceable in creating effective and engaging learning environments. They note that AI can help alleviate professors' administrative workload, allowing them to focus more on pedagogical aspects such as personalized instruction and socio-emotional support for students. By automating routine tasks, AI enables professors to devote more time to building relationships with students—relationships that are fundamental to the learning process. The authors also stress the importance of continuous professional development to prepare professors for integrating AI into their practices, while maintaining a focus on human interaction and collaborative learning.

Based on participants' responses, academic advising extends far beyond the simple transmission of information. It involves interaction, critical reflection, and emotional and institutional support—dimensions that machines, however advanced, cannot replace. In line with Fadel *et al.* (2024), the perception of AI's negative impact on learning is directly linked to recognition of the irreplaceable role of human advisors in student development.



This perspective was reinforced by 18 professors, who highlighted the importance of interpersonal skills and human support in the educational process. While acknowledging AI's advantages in terms of time optimization and access to information, they stressed that education cannot be reduced to content delivery alone. The development of critically engaged and skilled students requires qualified human support, which considers not only technical knowledge but also the emotional and ethical aspects of academic training.

In this context, AI can be regarded as an ally when its use is strategically designed to enhance learning without compromising students' autonomy and critical thinking. The implementation of educational technologies must, as a result, be accompanied by pedagogical practices that ensure a balance between innovation and the preservation of the professors' essential role as a guide in the educational process.

Need for ethical discussion and a critical approach

Among the faculty members surveyed, 18 acknowledged the importance of discussing ethics in the use of AI, demonstrating awareness of the challenges that such technologies may pose—particularly in preventing the misappropriation of other researchers' ideas. However, these faculty members also stated that no in-depth discussions on the subject have yet taken place at their university, which can lead to misunderstandings about how and when AI tools should be used. The recognition that such dialogue is both necessary and urgent reflects a critical awareness of AI's broader implications for academic education and society, as well as the need for training that addresses both practices and ethical principles.

All 22 professors emphasized the need for ethical training in the use of AI technologies, stressing that both professors and students must understand the implications of integrating AI into pedagogical and academic practices. According to Souza, Rodrigues, and Ribeiro (2023), a lack of adequate training may result in uninformed or irresponsible practices, undermining the learning and innovation potential that AI could otherwise support. For these authors, the implementation of AI in education must always be accompanied by critical and reflective discussions of its role and impact.

Concerns about ethics were unanimous. When considering ways to strengthen students' understanding of the responsible use of AI, professors suggested incorporating specific curricular modules, organizing workshops dedicated to AI ethics, and facilitating classroom discussions on the subject. These proposals highlight the need for a more robust and transparent educational approach—one that informs students about available tools while preparing them for the ethical complexities they entail (Fadel *et al.*, 2024).

As stated by Cachapa *et al.* (2024), deliberation on the ethical dimensions of AI is fundamental to recognizing both its advantages (such as efficiency and time optimization) and its disadvantages (including passive learning and misinformation). Ethical training can help establish best practices and encourage more critical uses of AI, shaping perceptions of its benefits and risks. Neglecting such discussions risks irresponsible practices, including academic dishonesty and overdependence on tools without critical evaluation.

For Rebelo (2023), developing students' critical thinking requires challenging them to question and analyze the outputs of tools such as ChatGPT. This includes evaluating the validity and accuracy of responses and verifying them against reliable sources. The

author also stresses the importance of students understanding AI's limitations, reinforcing accountability for outcomes and preparing them to address the ethical and practical challenges these technologies present.

Drawing on professors' suggestions, Fadel *et al.* (2024) propose including workshops, lectures, and colloquia on AI ethics within curricula as a means of preparing students to face these challenges. Such initiatives would promote conscious and critical engagement with technological tools. The authors further argue that collaboration and sustained dialogue among professors, students, and technology experts are essential to maximizing AI's benefits in education, fostering collaborative learning environments, and strengthening critical awareness of its potential and limitations.

Benefits and concerns regarding AI use

Analysis of professors' responses reveals a nuanced balance of benefits and concerns regarding the use of AI in education. On the positive side, 13 professors identified AI as a valuable tool for optimizing time dedicated to administrative tasks and supporting content creation. They noted that AI can facilitate academic writing by assisting with the structuring and organization of ideas—an advantage particularly relevant in increasingly demanding educational contexts. At the same time, equally significant concerns were raised. Sixteen professors highlighted the risk of passivity in learning, warning that excessive reliance on AI may encourage superficial engagement with content and compromise the development of critical and analytical skills.

In addition, professors expressed concern about the quality of information generated by AI. Fourteen professors highlighted the risk that students may uncritically accept inaccurate or misleading content without adequate verification. Such reliance on unverified information, they warned, can weaken students' research skills and undermine their overall academic training.

Rebello (2023) highlights advantages and disadvantages that align with professors' perspectives. On the one hand, AI offers flexible access to learning and can help overcome language barriers, thereby facilitating written expression. On the other hand, concerns arise from information bias, which may perpetuate prejudices through questionable data, and from the risk of misinformation generated by inaccurate outputs. The lack of transparency in AI responses can further contribute to mistrust. Additional issues include privacy and data security in the exchange of information, as well as the depersonalization of teaching—the diminishing of human and individualized aspects of education often caused by excessive technological mediation. Such depersonalization risks undermining the empathy and emotional support that professors provide, particularly in moments of student difficulty (Cachapa *et al.*, 2024). Overall, these concerns underscore that the implications of AI use in education are multifaceted and demand careful, critical consideration.

Considering professors' responses, it is evident that while AI offers substantial opportunities to enhance teaching practices and support student learning, it also entails risks that cannot be overlooked. Successful integration of AI in education requires a balanced approach—one that leverages its benefits, as noted by 13 professors regarding time optimization, while simultaneously addressing its drawbacks, highlighted by 16



professors' concerns about learning passivity and 14 professors' concerns about the quality of information.

Ongoing professional development and open dialogue about the responsible use of AI are essential to ensure that this technology functions as an effective and ethically sound support in education. According to Lima, Ferreira, and Carvalho (2024), training plays a crucial role in shaping how AI tools are employed, enhancing their benefits while mitigating potential drawbacks. Well-informed professors are better equipped to engage with AI consciously, discerning which applications should be emphasized and which should be approached with caution.

Final considerations

This study aimed to examine the perceptions of pedagogy professors at a public university in Ceará regarding the use of AI in academic work, considering its potential benefits and associated concerns. The findings indicate that professors hold diverse views on AI, reflecting both optimistic expectations for its advantages and apprehensions about its implementation in educational contexts.

The analysis of professors' responses reveals a tension between the potential of AI as an educational tool and the challenges it presents to student learning and academic development, particularly regarding ethical considerations. While some professors acknowledge AI as a valuable resource for enhancing writing and research, the predominant concern centers on the potential loss of originality and the reduction of intellectual effort necessary for developing critical academic skills. These perceptions underscore a landscape of uncertainty, in which professors must navigate the balance between technological innovation and the fundamental principles of ethics and academic integrity.

A major challenge for professors is the lack of specific AI training, essential for its responsible and effective use in education. Many professors report feeling unprepared to guide students in the proper use of this technology, contributing to insecurities and concerns about its impact on academic work. Furthermore, the absence of clear institutional guidelines exacerbates the issue, leaving professors without a well-defined pedagogical framework to navigate the increasing presence of AI in the university context.

The findings underscore the need for a broader and more open debate on the role of AI in education, particularly in higher education. Conversations addressing ethics, academic integrity, and AI-mediated teaching strategies are essential to ensure that technology is employed thoughtfully and effectively. Establishing spaces for continuous training and the exchange of experiences among professors can help overcome misconceptions and biases, fostering a more critical, informed, and responsible use of AI in the academic context.

Another relevant point is that, whereas many professors express concern that AI might replace human effort in knowledge construction, there is general agreement that, when used appropriately, it can serve as an ally in fostering critical thinking and student autonomy. For this potential to be realized, however, it is crucial that educational institutions provide adequate pedagogical support, including clear guidelines for



integrating AI into academic practices in a manner that preserves meaningful learning and respects the authorship of existing knowledge.

Professors' perceptions of AI in academic work are closely linked to their knowledge of the technology, meaning that the way AI is introduced and discussed within the university context directly affects professors' acceptance and confidence in its use. A more structured approach—comprising the development of institutional guidelines and targeted professor training programs—can address existing concerns and foster a more balanced understanding of both the benefits and limitations of AI in education. In this regard, integrating AI into initial and continuing professor education curricula can be a decisive step toward its effective and responsible use in teaching.

The study's findings further underscore the importance of actively involving professors in the formulation of institutional policies regarding the use of AI in education. This involvement should include considering their perceptions and ensuring their active participation in developing regulations and defining best practices. By valuing professors' experiences and concerns, institutions can better align AI integration with professors' needs and expectations, reducing resistance and facilitating adoption.

Consequently, the success of AI in academic work depends on a combination of interrelated factors: continuous faculty development, clear institutional guidelines, in-depth ethical discussions, and pedagogical strategies that promote student autonomy and creativity. These elements support professors in fully exercising their guiding role, ensuring that AI is employed responsibly and effectively to enhance learning outcomes.

To conclude, although AI presents challenges for higher education, its adoption can be highly beneficial when accompanied by critical reflection and deliberate strategies for responsible implementation. By investing in faculty development and fostering an educational environment that values critical thinking, creativity, and innovation, institutions can transform AI into a meaningful ally in the teaching-learning process, thereby promoting high-quality academic education that meets the demands of contemporary society.

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