



Students recommendations for the ethical use of artificial intelligence in university contexts: an international qualitative study

Recomendaciones estudiantiles para un uso ético de la inteligencia artificial en contextos universitarios: un estudio cualitativo internacional

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ABSTRACT

Artificial Intelligence (AI) is transforming all sectors of human life, prompting the development of international ethical guidelines for its use. However, studies report irresponsible practices in university settings. This qualitative study, based on a phenomenological design, aimed to identify student recommendations for the ethical use of AI. A total of 57 university students participated, meeting the following criteria: a) enrolled in a higher education institution and b) having used AI during their studies. Participants were from 17 universities in México, Brazil, Colombia, Argentina, Chile, and Italy. The written composition technique was employed via Google Forms, collecting: a) recommendations regarding the ethical use of AI, and b) sociodemographic data. Narratives were analyzed inductively using content analysis in MAXQDA2024. Five main recommendations were identified, ranked by the frequency of segments: a) using AI only as a complementary tool (33%), b) establishing university-level regulations for AI use (24%), c) using AI to enhance academic production (19%), d) validating information provided by AI (13%), and e) promoting AI literacy (10%). The findings reveal a student population that recognizes AI as support tool without relinquishing their academic responsibilities; however, they did not refer to key international recommendations relevant to their educational development.

Keywords: artificial intelligence, ethical review, students, policy making, universities

RESUMEN

La Inteligencia Artificial (IA) está transformando todos los sectores de la vida de las personas, lo que ha generado recomendaciones éticas internacionales sobre su uso, sin embargo, estudios reportan prácticas irresponsables en contextos universitarios. Estudio cualitativo con diseño fenomenológico, tuvo por objetivo identificar recomendaciones de uso ético de la IA por estudiantado. Participaron 57 estudiantes universitarios que cumplieron con los criterios: a) inscritos en una institución universitaria y b) usado IA durante sus estudios. Pertenecían a 17 universidades de México, Brasil, Colombia, Argentina, Chile e Italia. Se empleó la técnica de composición escrita, en Google Forms: a) recomendaciones sobre el uso ético de IA y b) datos sociodemográficos. Las narraciones se analizaron inductivamente mediante análisis de contenido, en MAXQDA2024. Se identificaron cinco recomendaciones ordenadas de mayor a menor segmentación: a) utilizar la IA solo como herramienta complementaria (33%), b) generar normativa universitaria de uso de la IA (24%), c) utilizar IA para mejorar producción académica (19%), d) validar la información que proporciona la IA (13%) y e) alfabetizar en el uso de IA (10%). Se identifica un estudiantado que acepta que la IA es un auxiliar, sin delegarle sus responsabilidades, sin embargo, no refirieron recomendaciones internacionales claves para su formación.

Palabras clave: inteligencia artificial, revisión ética, estudiantes, formulación de políticas, universidades

INTRODUCTION

The United Nations Educational, Scientific and Cultural Organization (UNESCO)(1) has strived for years to ensure that scientific and technological development is governed by ethical principles, with the aim of establishing international regulations that enhance the benefits of scientific advances and, at the same time, reduce potential risks. Furthermore, it points out that it is urgent for countries that still lack regulations on the ethics of Artificial Intelligence (AI) to formulate and apply them on a priority basis.

Despite the growth in the use of AI in educational contexts, education professionals still lack clear guidelines for its implementation. According to 1 study conducted by UNESCO, only 10% of educational institutions formally monitor its use and only 40 national AI strategies addressing ethical aspects had been identified.(1)

Countries are developing AI training programs to incorporate AI objectives into their curricula. (2) This study arises in response to the international call to contribute to understanding the process of incorporating AI in educational environments and the construction of strategies that promote its ethical, inclusive, and pedagogically relevant use. The objective of this qualitative research is to identify recommendations for the ethical use of AI by university students. The knowledge generated will allow the identification of units of meaning with suggestions about AI for universities, within an international framework interpretation.

International organizations that promote the ethical principles of the use of AI

The European Commission (3) established guidelines for trustworthy AI, including that AI systems must be designed to strengthen human autonomy, facilitating informed decision-making and promoting respect for fundamental rights; they must be oriented towards generating benefits for all humanity, including future generations, and ensuring sustainability; and mechanisms must be established to ensure ethical, legal, and social responsibility in the design, implementation, and use of AI.

UNESCO (4) has established guidelines in the educational and research fields to foster responsible use of AI, urging Member States to collaborate with educational institutions in various actions. These include promoting equitable access to technologies, boosting the development of competencies, promoting research on the ethical and responsible use of AI in educational contexts, designing curricula that address ethics, and supporting research related to AI.

On the other hand, the Organisation for Economic Co-operation and Development⁵ established ethical principles based on values regarding AI, such as: stakeholders have the ethical responsibility to proactively engage in the trustworthy and transparent management of AI, the ethical commitment to ensure transparency in its processes and decisions must be assumed, and in general, compliance with established ethical principles.

Recientemente la UNESCO(6, 7) publicó dos marcos de competencias que representan referentes internacionales importantes para la formación en materia de IA, uno para el profesorado y otro para estudiantes. Como se puede observar, los esfuerzos internacionales para regular el uso de la IA en las regiones son importantes; sin embargo, es necesario continuar aportando conocimiento como el del presente estudio, que devela las recomendaciones situadas en contextos universitarios con características culturales, tecnológicas, organizacionales y normativas diversas, para ser articuladas con los principios normativos internacionales publicados.

Studies on ethical recommendations from the perspective of university students in the use of AI

In Australia, it was reported that students are responsible in their use of AI, recognizing that excessive use affects critical skills.(8) In Morocco, it was found that students need training on the use of AI, as well as public policies to guide its application in university contexts.(9)

One study conducted in Vietnam reported that the student body recommends, for responsible use of AI, employing the method of indirect questions, establishing strict management policies, promoting intensive programs on the appropriate use of AI, and applying evaluation methods that include randomization, question dynamics, and algorithmic modifications (10).

In countries such as Ecuador, Peru, and Mexico, it was reported that 34.2% of students consider that AI can be used in an ethical and responsible manner (11). In the case of Chile, it was reported that students apply guidelines in the use of AI, such as drafting and reviewing academic content considering the structure and coherence of texts, and verifying the accuracy and relevance of the data (12).

Recently, in Peru, it was found that students recommend workshops on the use of AI in relation to the constant improvement of prompts, searching with suitable words, and technical advice for the proper management and use of AI.(13) In Mexico, it was found that students express a positive attitude toward the use of ChatGPT, where they are aware of its ethical implications but improvements are required in citation practices and source verification.(14)

In contrast, in Russia it was reported that students engage in plagiarism due to the limited integration of AI by faculty in their courses. It is also due to the lack of guidance from institutions on a regulatory framework.(15)

Following the same line, one recent study conducted in Peru highlighted the existence of an ethical behavior effect among students in the use of AI, where they engage in actions such as improperly using this technology, not limiting themselves to its use, and plagiarizing generated information.(13)

METHODS

Study type. This was a qualitative investigation with a phenomenological design, which allowed exploring and understanding students' subjective experiences regarding the ethical use of AI in university contexts.

Participants. A total of 57 university students participated, selected through convenience sampling based on the resources and access possibilities available to the research team during an international stay, from 17 educational institutions across Latin America and Europe: Mexico, Brazil, Colombia, Argentina, Chile, and Italy. The following inclusion criteria were applied: a) enrolled in a university of any educational sector, and b) having used IA during their academic trajectory. Of the total participants, 64.9% identified as female ($n = 37$) and 35.1% as male ($n = 20$), ranging in age from 20 to 24 years.

Instrument. The written composition technique was used for qualitative narrative research, supported by a topic guide from which the participating students individually developed a topic. (16) After validation by three experts in education with a doctorate, the guide was incorporated into Google Forms. It consisted of two categories: a) ethical recommendations on the use of AI and b) sociodemographic data.

Procedure. The research protocol was approved by the private institution of the principal author of this study. The topic guide incorporated into Google Forms was shared with the students via WhatsApp, along with an invitation and agreement for their voluntary and confidential participation through informed consent.

Data analysis. The qualitative software MAXQDA2024 was used to conduct content analysis of the experiences narrated by the students, inductively and without predefined categories, to identify patterns of meaning. This was carried out in two stages according to Manig et al.(17): a) vertical analysis, in which narratives were organized and classified into codes and subcodes; and b) horizontal analysis, in which, using the software's visual tools, statistics of codes and subcodes were obtained, along with a visual representation of MAXMaps with the narratives on ethical recommendations in the use of AI to illustrate the coded segments, i.e., textual quotes from the students.

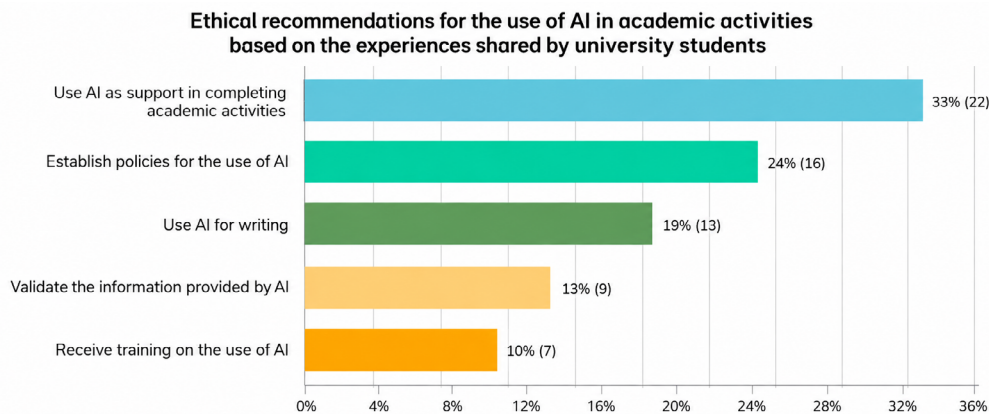
Ethical regulations and methodological rigor criteria were applied: a) qualitative credibility (18) in MAXMaps; b) data confidentiality (19); c) informed consent (20); and d) internal logical consistency (21). Data analysis was performed independently by the research team.

RESULTS

Five recommendations emerged, ordered by number of coded segments in the qualitative software, from highest to lowest: a) Use AI as support in performing activities (33%), b) Establish policies in the use of AI (24%), c) Use AI for writing (19%), d) Validate the information provided by AI (13%), and e) Train in the use of AI (10%) (Figure 1).

Figure 1 shows the recommendations most frequently mentioned by the students. It reflects the concerns arising from their experience interacting with AI. The main characteristics of each recommendation are synthesized below.

a) Use of IA as support in carrying out activities. This was the most outstanding result. Participants recommended using IA only as an auxiliary, not substituting their own intellectual work with results produced by IA. They referred to phrases such as 'only extra help,' 'don't let IA do everything,' and 'let it be an extension to broaden the approach to a topic.'

Figure 1. Ethical recommendations for the use of AI in academic activities.

Source: Authors' own elaboration using the qualitative software MAXQDA2024.

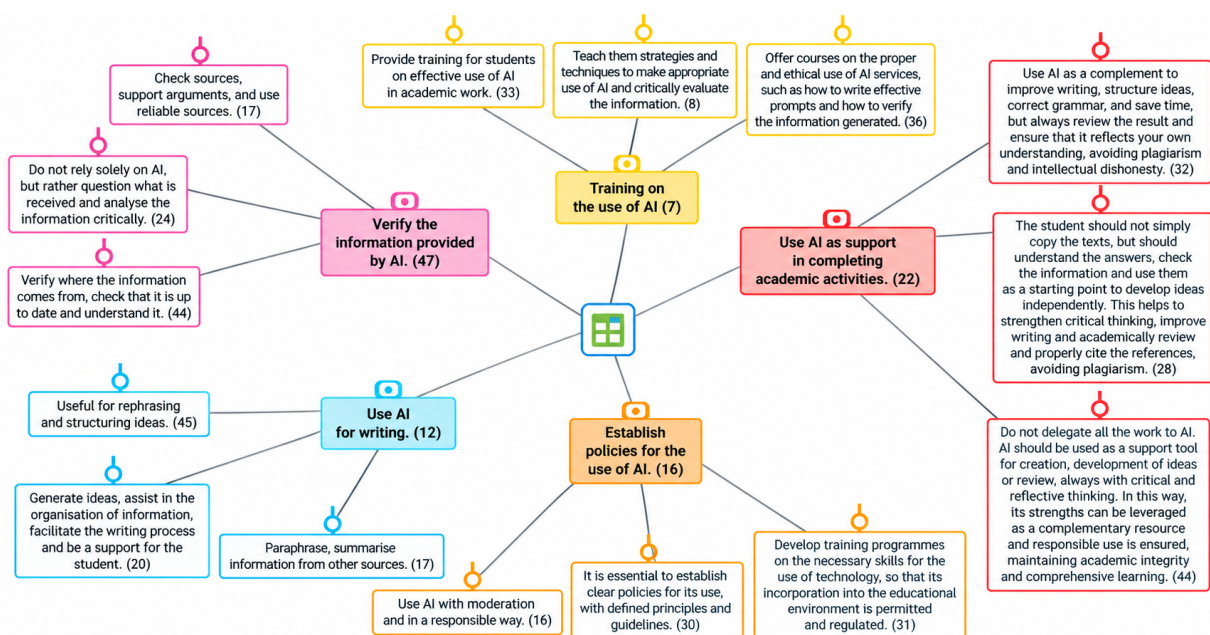
b) Establish policies on the use of IA. They repeatedly indicated setting limits on the use of IA, referring to time, even mentioning 3 times a week. They emphasized the importance of including citations, showing transparency in authorship, and avoiding copy and paste.

c) Use IA for writing. For writing, they repeatedly referred to paraphrasing based on the results that IA provides, specifying that any idea processed by IA must be generated from the student's own writing.

d) Validate the information provided by IA. This recommendation was among the least frequently mentioned. They recommended corroborating the information that IA provides, verifying the sources that are generated, and contrasting the information with other sources and other IA; they mentioned this to avoid being manipulated by IA and to promote critical thinking.

e) Training in the use of AI. This was the least frequently mentioned recommendation, encompassing the implementation of institutional courses that guide on its proper use, the development of strategies and techniques for ethical treatment of information, and the learning of basic principles on prompt formulation. They also referred to the faculty's mentoring or guiding role in the training process in the use of AI.

Figure 2 presents the five ethical recommendations that emerged, with examples of coded segments and textual narratives from the participating students.

Figure 2. Ethical recommendations for the use of AI and coded segments.

Source: Authors' own elaboration using the qualitative software MAXQDA2024.

DISCUSSION

The identification of ethical recommendations for the use of AI in academic activities, based on the experiences narrated by university students, yielded 5 recommendations. The following stood out with the greatest number of coded segments: using AI as support in carrying out activities, establishing policies in the use of AI, and using AI for writing. This indicates that students have assumed that AI's role in their academic environment is limited to being only a support for their learning. These findings are consistent with the human-centered approach to AI that UNESCO (7) has reiterated in its international recommendations. The recommendation to have policies on the use of AI perhaps shows that international, national, and any existing institutional frameworks are neither known nor adopted by some of the participants. In this regard, UNESCO (1) has been urging countries that still do not have regulations on AI ethics to articulate and apply them.

Student recommendations also show an acceptance of AI and are feasible to apply due to the technological acceleration of GenAI, which emerges year after year to facilitate learning experiences, including ChatGPT, Deepseek, Gemini, and Perplexity (22).

On the other hand, the less mentioned recommendations were: validating the information provided by IA and training in the use of IA. The UNESCO(6, 7) competency frameworks for teachers and students, in their purposes, refer to the critical judgment that people should exercise regarding IA solutions, especially the hallucinations that IA can produce, as Joshi (23) points out.

Thus, training is key to reducing the possible risks of AI. UNESCO (4) discusses the generation of foundational AI knowledge for lifelong learning and the design of inclusive and sustainable AI. However, since these recommendations are the least referenced, this implies that educational actors should recognize the importance of validating the information provided by AI, an aspect that should be present in training and professional development processes (24). However, it is the lack of training that is observed at this level (25).

CONCLUSIONS

The 5 recommendations identified in this study on the use of AI in academic activities, based on the experiences narrated by university students, are consistent with international frameworks and principles, which grants them validity for consideration in the academic community. However, some key recommendations did not emerge, such as those related to the inclusive approach, as well as those about AI being reliable in its algorithm and environmentally sustainable. 3 recommendations stood out prominently: using AI as support in carrying out activities, establishing policies in the use of AI, and using AI for writing. Despite the diversity of the participants' country of origin, it was possible to identify units of meaning with patterns that allowed an understanding of how the recommendations emerged.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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