Ethics of Artificial Intelligence in University Education

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Abstract*— This paper explores the ethics of artificial intelligence (AI) in university edu-cation by examining the existing literature. The objective is to identify key themes, concepts, and arguments related to ethical considerations in imple-menting and using AI tools in educational settings. The methodology in-volves reviewing literature and analyzing relevant sources from academic da-tabases. According to previous literature findings, the results reveal that the ethics of using artificial intelligence in higher education include concerns about academic integrity, misleading and low-quality AI outputs, educational automation, data privacy, and the negative impacts on fundamental issues surrounding human rights and educational equity. Additionally, it considers the role of public-private partnerships in ethically integrating AI into educa-tional infrastructure and practice.

Keywords*— Artificial Intelligence, Ethics, University Education, Educational Equity, Pub-lic-Private Partnership

I. Introduction

In light of the technological development taking place in various areas of life, the use of artificial intelligence has become more widely used in various sectors, including the education sector, as its use in higher education has increased over the past five years, due to the spread of new artificial intelligence tools, due to its importance in the education sector [1][2].

Artificial intelligence (AI) has emerged as a transformative technology with the potential to revolutionize various sectors, including education. The integration of AI tools in university education holds promise for promoting interactive learning, enhancing student engagement, and improving learning outcomes. However, the ethical implications of deploying AI in educational settings have become a subject of increasing concern. As AI becomes more prevalent in university education, it is crucial to examine and understand the ethical considerations associated with its implementation.

Among the artificial intelligence tools used in education is ChatGPT, which was released in late 2022. It is a tool capable of conducting conversations and responding to commands. Its use has been important, but there are some problems with its misuse, such as cheating and others [3].

Given the use of e-learning in the educational process, in light of the post-Corona pandemic conditions [4-7], the use of artificial intelligence tools has become more important A tool for the student to use in education.

The emergence of ChatGPT has led to concern among practitioners seeking to discover the validity of student work, and some educational pessimists see the end of education in its current form [8].

Several research studies have shed light on the perceptions and ethical considerations of students regarding the use of AI tools in academia. For instance, Irfan et al. (2023) conducted a comprehensive study at the University of Limerick in Ireland, exploring the implementation of AI tools and the associated ethics and privacy concerns. Their findings revealed varying levels of concern among students, with technology and science-focused students displaying a higher degree of apprehension [9].

Similarly, Sariyasa and Monika (2023) analyzed students' responses to using AI and academic ethics in the era of independent learning. Through a qualitative approach, they found that students perceived AI as responsive, practical, efficient, interactive, and useful in individual learning processes. However, they also emphasized the importance of continuously implementing academic ethics when incorporating AI in learning activities [10].

Furthermore, Wahjusaputri et al. (2023) aimed to develop and design solutions for AI-based learning models to improve learning quality in higher education. Their research highlighted the significance of establishing strategies, such as curriculum development, technology development labs, training programs, and university regulations, to support the responsible and effective implementation of AI in educational contexts [11].

In addition to student perspectives, the role of ethics in AI education and its integration into university curricula has been examined. Garrett et al. (2020) explored two pathways for ethics content in AI education: standalone AI ethics courses and integrating ethics into technical AI courses. Their analysis of AI ethics classes and technical AI courses provided insights into the topics covered and the need for training computer scientists to consider the societal and ethical consequences of their work [12].

Given the growing prevalence of AI in university education and the ethical implications it raises, it is imperative to delve deeper into the ethics of artificial intelligence in this context. This study aims to contribute to the existing body of knowledge by examining the opportunities and challenges associated with the use of AI tools in university education and exploring the ethical considerations that need to be addressed. By synthesizing insights from previous research, including student perceptions, academic ethics, and AI education practices, this study seeks to provide valuable insights for educators, policymakers, and stakeholders in the field of higher education.

II. Literature Review

The literature review provides an overview of the existing research and insights regarding the ethics of artificial intelligence (AI) in university education. Several research papers have explored various aspects of this topic, including the integration of AI tools in the educational sector, students' perceptions and ethical considerations, the impact of AI-based learning models, and the inclusion of ethics in AI education.

Silva and Janes (2024) highlight the urgent need for proper regulations and checks to ensure the ethical and effective use of AI tools in education. They emphasize that educational institutions should not solely rely on AI corporate entities for setting regulations, as the introduction of generative AI tools may diminish the significance of educators and pave the way for increased automation in the educational domain. The paper emphasizes the importance of investing in schools and educators, rather than just technology, to address the challenges in education [13].

Irfan et al. (2023) focus on students' perceptions and ethical considerations regarding the use of AI tools in academia. Their study, conducted at the University of Limerick in Ireland, reveals that students from technology and science-focused schools display a higher degree of concern about data privacy, indicating their deeper understanding of potential privacy implications. Conversely, students from arts, humanities, and social sciences show slightly lower levels of concern. The research emphasizes the need to explore privacy and ethical considerations when implementing AI tools in education [9].

Sariyasa and Monika (2023) analyze students' responses to using AI and academic ethics in the era of independent learning. Their qualitative study, conducted at Ganesha University of Education, Singaraja Campus, indicates that students perceive AI as responsive, practical, efficient, interactive, and useful in courses and individual learning processes. The study emphasizes the importance of implementing academic ethics when using AI in learning activities, such as scientific writing assignments, learning media development, and proper citation practices [10].

Wahjusaputri et al. (2023) aim to develop and design solutions for AI-based learning models to improve learning quality in higher education. Their research identifies ten strategies for implementing AI-based learning models, including curriculum development aligned with technological advancements, establishment of technology development labs, creation and use of learning media based on AI, regular evaluations, outreach regarding data privacy, training for students and lecturers, and socialization of entrepreneurship and professional ethics [11].

Lee (2021) emphasizes the need for AI education programs that cater to learners' levels and promote AI literacy. The study focuses on non-major students and presents an educational program for AI literacy, including the exploration of its impact on AI ethics. The findings suggest that an education program that offers experiences in using and utilizing AI can positively impact learners' perception of AI ethics [14].

Garrett et al. (2020) explore the integration of ethics content in AI education. They analyze standalone AI ethics courses and the integration of ethics into technical AI courses. The study examines the topics covered in AI ethics education and highlights notable practices and omissions. The findings provide insights for AI educators on what topics should be taught and offer a framework for the development of future AI ethics education [12].

In addition to the studies by Celik (2023), Dogan et al. (2023), Foltynek et al. (2023), Illia et al. (2023), Mhlanga (2023), Mijwil et al. (2023), Nguyen et al. (2023), and Sullivan et al. (2023) that discussed the ethical challenges of using artificial intelligence tools in education, several other studies have contributed to this discourse. These additional studies have provided valuable insights into various aspects of the ethical implications associated with the utilization of artificial intelligence in the field of education [15-22].

The literature review demonstrates the growing interest in the ethics of AI in university education. It emphasizes the need for proper regulations, students' ethical considerations, the impact of AI-based learning models, and the inclusion of ethics in AI education. The findings highlight the importance of addressing ethical concerns, promoting AI literacy, and considering the societal implications of AI in educational settings.

III. Methodology

This study utilizes a literature review as the research methodology to explore the ethics of artificial intelligence (AI) in university education. A literature review is a systematic and comprehensive examination of existing scholarly literature relevant to the research topic. It involves identifying, evaluating, and synthesizing published studies, academic papers, and other relevant sources to gain insights and knowledge about the research question.

A. Research Objective:

The literature review aims to examine and analyze the existing literature on the ethics of AI in university education. The review aims to identify key themes, concepts, and arguments related to ethical considerations in implementing and using AI tools in educational settings.

B. Literature Search:

A comprehensive literature search is conducted to identify relevant sources. Various academic databases, such as PubMed, Google Scholar, IEEE Xplore, and ERIC, are utilized to retrieve scholarly articles and publications. Keywords and search terms related to AI, ethics, university education, and related concepts are used to ensure a comprehensive search.

C. Inclusion and Exclusion Criteria:

Criteria are established to select relevant literature for the review. Inclusion criteria may include articles published in peer-reviewed journals, books, and conference proceedings that specifically address the ethics of AI in university education. The exclusion criteria may involve studies that do not focus on ethical considerations or are not directly related to the research question.

D. Screening and Selection:

The retrieved literature is screened based on the inclusion and exclusion criteria. Initially, titles and abstracts are reviewed to determine their relevance to the research topic. Selected

articles are then further examined by reading the full text to assess their suitability for the review.

E. Data Extraction and Analysis:

Relevant information from the selected literature is extracted and organized. This includes key concepts, research findings, methodologies, theoretical frameworks, and ethical frameworks or principles discussed in the literature. The extracted data are synthesized and analyzed to identify common themes, patterns, and arguments related to the ethics of AI in university education.

F. Synthesis and Interpretation:

The synthesized findings are interpreted and discussed in the context of the research question. Connections and relationships between different studies are identified, and similarities and differences in perspectives are analyzed. The literature review aims to provide a comprehensive overview of the current state of knowledge, identify research gaps, and generate insights for further research or practical implications.

IV. Result and Discussion

The ethical considerations surrounding the utilization of artificial intelligence (AI) in higher education have been extensively explored in the existing literature, revealing a multifaceted landscape of challenges and concerns. This discussion will delve into key ethical dimensions as identified in various scholarly works.

A. Academic Integrity:

A prominent ethical challenge highlighted in the literature is the preservation of academic integrity in the context of AI integration into education. Lee (2021) and Garrett et al. (2020) underscore the imperative for ethical AI use, particularly in writing and teaching processes [14][12]. Foltynek et al. (2023) further illuminate the potential misalignment of AI tools with academic integrity, necessitating guidance for both students and academics [17]. The call for transparency and scientific integrity, especially when using tools like ChatGPT, is emphasized by Mhlanga (2023). Mijwil et al. (2023) express concerns about potential violations of academic integrity in utilizing ChatGPT for scientific research, highlighting the delicate balance between AI assistance and academic honesty [19-20]. Despite these concerns, Sullivan et al. (2023) underscore the centrality of academic integrity in shaping the discourse on AI in education [22].

The ethical implications concerning teachers and students in the AI-driven educational landscape are multifaceted. Sariyasa and Monika (2023) stress the importance of developing educational tools characterized by honesty and transparency, requiring careful citation of sources [10]. Lund et al. (2023) shed light on ethical issues arising from the use of CPT-3 by academics and researchers, especially in language processing for research and publication purposes [23]. Celik's (2023) study emphasizes that teachers engaging with AI in education must possess not only technical proficiency but also pedagogical and ethical knowledge. This aligns with the notion of Technological Pedagogical Content Knowledge (TPACK), emphasizing the ethical integration of technology into teaching practices [15].

B. Misleading and Low-Quality AI Outputs:

A significant concern identified in the literature revolves around the potential for AI-generated outputs to be misleading and of low quality. Illia et al. (2023) and Dogan et al. (2023) illuminate the challenges associated with generating texts from AI models such as CPT-3, including the production of misleading or fabricated information [18] [16]. Sullivan et al. (2023) reinforce these concerns, highlighting the ethical dimensions of AI outputs and their potential impact on educational quality [22].

C. Automation of Education:

Ethical discussions extend to the automation of education, raising questions about the potential displacement of teachers and the diminishing role of educators. Silva and Janes (2024) caution against the possible devaluation of teachers and the subsequent increase in automation within the educational sphere. This ethical dimension underscores the need for a balanced approach to AI integration that preserves the essential role of human educators [13].

D. Data Privacy:

The literature emphasizes data privacy as a crucial ethical consideration in the realm of AI in education. Irfan et al. (2023) and Wahjusaputri et al. (2023) express concerns about the privacy of data associated with AI tools, emphasizing the need for robust safeguards to protect sensitive information [9] [11].

E. Concerns Related to Fundamental Human Rights:

An overarching ethical challenge identified in the literature is the potential negative impact of AI on fundamental human rights. Nguyen et al. (2023) draw attention to concerns about how AI implementation may infringe upon these rights, underscoring the importance of careful consideration and ethical oversight in the deployment of AI technologies in education [21].

V. Conclusion

The ethics of using artificial intelligence in higher education, as deduced from previous literature, revolve around several key themes: academic integrity, misleading and low-quality outputs of artificial intelligence, education automation, data privacy, and concerns related to negative impacts on fundamental human rights issues.

VI. Recommendation

- Develop and disseminate clear ethical guidelines for the use of artificial intelligence in academic so importance
- Establish robust oversight mechanisms to monitor and evaluate the ethical implications of AI applications in education.
- Intrusions training programs for both educators and students to enhance awareness of the ethical considerations associated with AI.
- Emphasize the importance of data privacy in the context of AI applications.

- Promote the integration of artificial intelligence into teaching practices while ensuring that educators possess not only technical skills but also pedagogical and ethical knowledge.

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