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Ethical Issues and Challenges in Implementing DepEd AI Guidelines in Basic Education

[1]Gerlyn D. Fortez, [2]Joan K. Pasigon, [3]Daisy P. Tangbawan, [4]Gertrude S. Bao-ed, [5]Jessicah L. Calimlim, [6]Adriano G. Sabado
Department of Education
[1]gerlyn.dimas@deped.gov.ph, [2]joan.pasigon003@deped.gov.ph, [3]daisy.tangbawan001@deped.gov.ph, [4]gertrude.baoed@deped.gov.ph, [5]jessicah.licos@deped.gov.ph, [6]adriansabado71@gmail.com

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Corresponding Email:
gerlyn.dimas@deped.gov.ph

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Index Terms:

artificial intelligence, ai ethics, deped guidelines, teacher awareness, educational technology, ethical practices, basic education

Abstract. Artificial intelligence (AI) is playing an increasingly transformative role in education by enhancing teaching and learning through tools such as chatbots, automated grading systems, and intelligent tutoring platforms. This study thoughtfully examined the ethical issues and challenges associated with implementing the Department of Education (DepEd) Foundational Guidelines on Artificial Intelligence in Basic Education, with a focus on teachers' awareness, ethical concerns, implementation challenges, and ethical AI practices. A quantitative descriptive–correlational research design was employed, supplemented by a qualitative thematic analysis. Data were collected from 45 graduate student-teachers and analyzed using descriptive statistics, Pearson's correlation, and multiple regression analysis. The findings revealed that teachers demonstrated a moderate level of awareness of the DepEd AI guidelines and generally exhibited responsible AI practices in the classroom. Ethical issues, such as academic dishonesty, data privacy, and algorithmic bias, were strongly recognized, whereas implementation challenges included limited training, insufficient resources, and unclear policy guidelines. Correlation analysis showed significant positive relationships among awareness, ethical issues, challenges, and ethical AI practices. Regression results further indicated that ethical issues, awareness, and challenges significantly predicted teachers' ethical AI practices, with ethical issues emerging as the strongest predictor. Thematic analysis identified key strategies to improve ethical AI implementation, including professional development, clearer policy guidelines, monitoring mechanisms, resource provision, and context-based application. The study concludes that while teachers are committed to ethical AI use, enhanced training, policy clarity, and institutional support are essential to strengthen responsible AI integration, highlighting the need for a comprehensive and collaborative approach to ethical AI use in basic education.

Introduction

Today, artificial intelligence (AI) is really shaking things up in education. It is making teaching and learning more dynamic with tools like chatbots, automated grading systems, and smart tutoring platforms. These technologies help create learning experiences that are more personalized, efficient, and accessible, while also making administrative tasks easier to handle (Li & Rohayati, 2024; Mahrishi et al., 2025; Ivanova et al., 2024; Paek & Kim, 2021). However, as great as these advancements are, they also raise some important ethical questions. People are concerned about academic integrity, data privacy, algorithmic bias, and the risk of relying excessively on automated systems for decision-making (Doğan & Şahin, 2024; Ifenthaler et al., 2024). To address these issues, educational institutions and governments are developing policy frameworks and ethical guidelines. These efforts focus on promoting responsible AI use by emphasizing transparency, fairness, and the need for human oversight in educational settings (Ifenthaler et al., 2024; Mahrishi et al., 2025).

In the Philippines, digital technologies are making waves in education, and AI is becoming a big part of teaching and learning (Cacho, 2024). To keep up with this trend, the Department of Education (DepEd) rolled out the Foundational Guidelines on Artificial Intelligence in Basic Education (DepEd Order No. 003, s. 2026). 2026). They focus on important principles such as academic integrity, data privacy, transparency, and accountability. They focus on important principles like academic integrity, data privacy, transparency, and accountability. But even with these policies in place, bringing them to life in the classroom is no easy task. Teachers often struggle with limited training, not enough resources, and sometimes confusing or inconsistent policy interpretations, which makes it tough to effectively integrate AI into their teaching (Alejandro et al., 2024). This situation calls for strategies that better align policy goals with what's actually happening in classrooms.

Teachers are key players in the ethical use of AI because they apply these policies and guide students on how to use technology properly. However, the rise of AI tools has brought its own set of challenges. Students might rely too much on AI-generated work, and detecting AI-assisted cheating is not always straightforward. In addition, many teachers lack the knowledge or training in ethical AI use, which limits their ability to tackle these issues. Moreover, limited resources and unclear guidelines make their jobs more difficult. This highlights the need to understand teachers' awareness, experiences, and views on AI-related policies to support ethical and effective use in classrooms. While much research has examined the technological benefits and learning outcomes of AI in education, there is little research on its ethical side, especially in the context of Philippine basic education. There is a lack of evidence on how teachers understand, interpret, and apply the DepEd AI guidelines in real classroom settings. Filling this gap is crucial to identify and manage ethical concerns and implementation challenges. Therefore, this study aims to explore teachers' awareness, the ethical issues they face, and the challenges they encounter with the DepEd Foundational Guidelines on Artificial Intelligence in Basic Education, as well as how these factors influence ethical AI practices in teaching.

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Research Questions

This study aimed to examine teachers' awareness, ethical concerns, and challenges in implementing the DepEd Foundational Guidelines on Artificial Intelligence in Basic Education, as well as how these factors influence their ethical AI practices in the classroom. Specifically, it seeks to answer the following questions:

1. What is teachers' awareness of the DepEd Foundational Guidelines on Artificial Intelligence in Basic Education?
2. What ethical issues and implementation challenges do teachers encounter when using artificial intelligence in teaching and learning?
3. What is teachers' level of ethical AI practice in the classroom?
4. Is there a significant relationship between teachers' awareness, perceived ethical issues, implementation challenges, and ethical AI practices?
5. Which factors (awareness, ethical issues, and challenges) significantly predict teachers' ethical AI practices?
6. What strategies can be recommended to improve the ethical implementation of AI in basic education?

Integrated Conceptual and Theoretical Mapping

The integrated conceptual and theoretical framework of this study illustrates the interrelationships among the key variables influencing the ethical implementation of artificial intelligence (AI) in basic education. Grounded in existing theories of technology integration, ethical decision-making, and AI governance, the framework considers teachers' awareness of DepEd AI guidelines as a critical foundational factor that influences both the recognition of ethical issues and the experience of implementation challenges. These factors in turn shape teachers' ethical AI practices in the classroom. The framework further suggests that higher levels of awareness enable teachers to better understand ethical concerns, such as academic integrity, data privacy, and algorithmic bias, while equipping them to navigate practical challenges related to training, resources, and policy clarity. Drawing from AI ethics frameworks and educational technology theories, this model assumes that awareness, ethical issues, and challenges are interconnected variables that collectively determine the extent to which teachers engage in responsible AI practice. In addition, the framework incorporates a qualitative dimension by identifying strategies for improving ethical AI implementation, such as professional development, policy enhancement, monitoring mechanisms, and resource provision. These strategies serve as reinforcing elements that address gaps in awareness and challenges, ultimately promoting more effective and ethical integration of AI in teaching and learning. Overall, the integrated framework provides a comprehensive understanding of how cognitive, ethical, and contextual factors interact to influence teachers' adoption of AI in education.

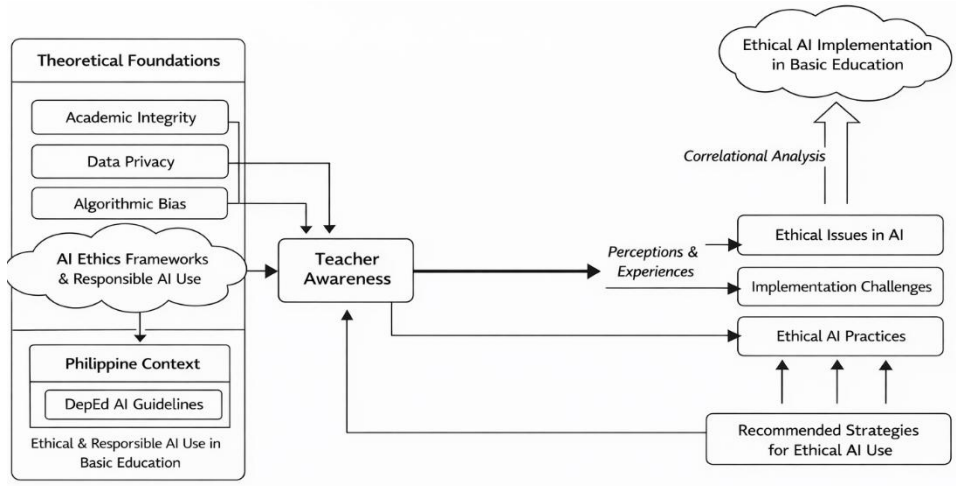

Figure 1. Integrated Conceptual and Theoretical Framework of the Study

Methodology

Research Design

This study primarily utilized a quantitative descriptive–correlational research design to investigate teachers' awareness of ethical issues, implementation challenges, and ethical AI practices concerning the DepEd Foundational Guidelines on Artificial Intelligence in Basic Education. The descriptive component assessed the levels of these variables based on participants' responses, whereas the correlational component explored the relationships among them. Additionally, multiple regression analysis was employed to identify variables that significantly predict teachers' ethical AI practices, offering a deeper understanding of the factors influencing responsible AI use in education. To complement the quantitative findings, the study incorporated a qualitative component through a thematic analysis of open-ended responses, which helped identify practical strategies for enhancing ethical AI implementation. However, the study remained primarily quantitative, with qualitative data serving a supportive role. Overall, this design is appropriate because it facilitates the systematic analysis of current conditions, the examination of relationships and predictive factors, and the inclusion of contextual insights to enhance the interpretation of results.

Participants of the Study

The study involved 45 graduate students enrolled in Master's and Doctor of Philosophy (PhD) programs who were currently employed as teachers in the Department of Education (DepEd). These participants were selected because they are directly engaged in classroom instruction and serve as key implementers of educational policies, including AI-related guidelines. Convenience sampling was employed, and respondents who were readily accessible and willing to participate were selected. Although this approach enabled efficient data collection, it may have limited the generalizability of the findings. Nevertheless, the participants' combined academic and professional experiences provided relevant insights into the ethical issues and challenges associated with AI implementation in basic education.

Research Instrument

The study utilized a structured questionnaire consisting of five sections: demographic profile, awareness of DepEd AI guidelines, ethical issues in AI use, implementation challenges, and ethical AI practices. The instrument included 40 Likert-scale items, with each major variable measured through eight indicators. Responses were rated using a four-point scale, where 4 represents strongly agree, 3 agree, 2 disagree, and 1 strongly disagree. The questionnaire was adapted from existing literature on AI in education and ethics, particularly from Holmes et al. (2019) and Nkonde (2020), and aligned with the DepEd AI guidelines (2026) to ensure contextual relevance. Content validity was established through an expert review, and necessary revisions were made based on feedback. Additionally, reliability testing using Cronbach's alpha was conducted to ensure the internal consistency of the instrument.

Data Collection Procedure

Prior to data collection, approval was obtained from the appropriate authorities, and ethical considerations were strictly observed. The participants were informed of the study's purpose and provided informed consent before participating. A questionnaire was distributed to 45 respondents, and participation was voluntary. Confidentiality and anonymity were ensured throughout the process, with no personally identifiable information being collected. After data collection, all responses were reviewed for completeness, organized systematically, and prepared for statistical analysis.

Data Analysis

The collected data were analyzed using both descriptive and inferential statistics. Frequency and percentage were used to describe the demographic profile of the respondents. The weighted mean was computed to determine the levels of awareness, ethical issues, implementation challenges, and ethical AI practices based on the four-point Likert scale. Pearson's product–moment correlation coefficient (r) was employed to examine the relationships among variables, with significance tested at the 0.05 level. Furthermore, a regression analysis was conducted to identify which variables—awareness, ethical issues, and challenges—significantly predict teachers' ethical AI practices. These statistical procedures provided a comprehensive understanding of both the relationships and predictive effects among the key variables influencing ethical AI implementation in education.

Results and Discussion

Demographic Profile of Respondents

Variable	Category	Frequency (f)	Percentage (%)
Gender	Male	4	8.89
	Female	41	91.11
	Prefer not to say	0	0.00
Teaching Experience	1–5 years	21	46.67
	6–10 years	10	22.22
	11–15 years	4	8.89
	16 years and above	10	22.22
Grade Level Taught	Elementary	24	53.33
	Junior High School	6	13.33
	Senior High School	7	15.56
	Both JHS & SHS	5	11.11
	No response	3	6.67
AI Training in Education	Yes	6	13.33
	No	39	86.67

Table 1. Demographic Profile of Respondents

Table 1 presents the demographic characteristics of the respondents, with a focus on gender, teaching experience, grade level taught, and participation in AI-related training. The data indicate that the sample is predominantly composed of female teachers, representing 91.11% of the respondents, while male teachers account for 8.89%. Regarding teaching experience, the majority of respondents possessed 1–5 years of experience (46.67%), followed by those with 6–10 years (22.22%) and those with 16 years or more (22.22%). A smaller proportion (8.89%) had 11–15 years of experience, suggesting that a significant portion of the participants are relatively early in their teaching careers. Regarding the grade level taught, the largest group of respondents teaches at the elementary level (53.33%), followed by those at the senior high school level (15.56%) and junior high school level (13.33%). Additionally, 11.11% of respondents reported teaching at both junior and senior high school levels, while 6.67% did not specify their grade level. Concerning AI-related training, a substantial majority (86.67%) indicated that they had not attended any such training, whereas 13.33% had participated in AI-related professional development. These findings suggest that the respondents were predominantly female, relatively less experienced educators, primarily teaching at the elementary level, with limited exposure to formal AI training. These attributes may have influenced their awareness, perceptions, and practices regarding the integration of AI in education.

Presents the descriptive statistics of teachers' awareness of ethical issues, implementation challenges, and ethical AI practices in the use of AI in basic education.

Variables	Mean	Interpretation
Awareness of DepEd AI Guidelines	3.02	Agree
Ethical Issues in the Use of AI	3.17	Agree
Challenges in Implementing the DepEd AI Guidelines	3.12	Agree
Ethical AI Practices of Teachers	3.08	Agree
Total	**3.10**	**Agree**

Table 2. Level of Teachers' Awareness, Ethical Issues, Implementation Challenges, and Ethical AI Practices

Table 2 presents the levels of teachers' awareness, ethical issues, implementation challenges, and ethical AI practices in the use of artificial intelligence in basic education. All variables were rated within the "Agree" range, indicating a moderate level of engagement. Teachers demonstrated awareness of the DepEd AI guidelines (M = 3.02) and exhibited ethical AI practices (M = 3.08), suggesting that they are generally capable of applying AI responsibly in their teaching. Among the variables, ethical issues obtained the highest mean (M = 3.17), reflecting teachers' strong recognition of concerns such as academic dishonesty, data privacy, and algorithmic bias, which are widely reported in AI-related studies (Doğan & Şahin, 2024; Ifenthaler et al., 2024). Implementation challenges (M = 3.12), including limited training, insufficient resources, and unclear policies, were also evident, consistent with previous research identifying barriers to effective AI integration (Alejandro et al., 2024). These findings further align with studies emphasizing that while AI offers transformative opportunities in education, it also presents ethical and practical challenges that require careful management (Kazimova et al., 2025), and that its growing application across educational settings requires continuous evaluation and support for effective implementation (Vanova et al., 2024). Moreover, the results support findings that teachers' awareness and readiness play a crucial role in the successful implementation of DepEd AI guidelines in basic education (Anselmo et al., 2026). Overall, although teachers demonstrate awareness and responsible practices, the results highlight the need for enhanced training, clearer guidelines, and stronger institutional support to promote more effective and ethical AI implementation in basic education.

Present the results of the correlation analysis and test of significant relationships among teachers' awareness, ethical issues, implementation challenges, and ethical AI practices.

Correlation Matrix of Key Variables

Variables	Awareness	Ethical Issues	Challenges	Practices
Awareness	1.000	0.551	0.378	0.562
Ethical Issues	0.551	1.000	0.760	0.607
Challenges	0.378	0.760	1.000	0.582
Practices	0.562	0.607	0.582	1.000

Table 3. Correlation Matrix of Key Variables

Table 3 presents the correlation among teachers' awareness, ethical issues, implementation challenges, and ethical AI practices. The results show that all variables are positively related, indicating that as one variable increases, the others also tend to increase. Awareness is moderately correlated with ethical issues and ethical AI practices, suggesting that teachers who are more familiar with AI guidelines are more likely to recognize ethical concerns and apply responsible practices. A strong relationship is also observed between ethical issues and implementation challenges, indicating that teachers who are more aware of ethical concerns tend to experience more difficulties in applying AI in the classroom. Additionally, ethical issues and challenges are both positively related to ethical AI practices, implying that greater awareness and understanding of these factors contribute to more responsible AI use. These findings support previous research emphasizing that awareness and understanding of AI ethics are important in promoting ethical and effective AI integration in education (Ifenthaler et al., 2024; Mahrishi et al., 2025), and highlight the role of interconnected factors in successful AI implementation (Hussein et al., 2025). They also align with studies showing that technology use and user perceptions significantly influence learning outcomes and effective integration in educational settings (Anselmo et al., 2026).

Test of Significant Relationship Among Variables

Variables	r-value	p-value	Interpretation	Decision
Awareness vs Ethical Issues	0.551	0.0001	Moderate Positive	Significant
Awareness vs Challenges	0.378	0.0104	Weak Positive	Significant
Awareness vs Practices	0.562	0.0001	Moderate Positive	Significant
Ethical Issues vs Challenges	0.760	0.0000	Strong Positive	Significant
Ethical Issues vs Practices	0.607	0.0000	Strong Positive	Significant
Challenges vs Practices	0.582	0.0000	Moderate Positive	Significant

Table 4. Test of Significant Relationship Among Variables

Table 4 presents the significant correlations among teachers' awareness, ethical issues, implementation challenges, and ethical AI practices. The findings reveal that all relationships are statistically significant, with p-values below the 0.05 threshold. This signifies that awareness, ethical issues, challenges, and ethical AI practices are significantly interrelated. Teachers with heightened awareness of AI guidelines are more inclined to identify ethical concerns, encounter implementation challenges, and exhibit responsible AI practices. The robust correlation between ethical issues and challenges further suggests that increased awareness of ethical concerns correlates with a heightened recognition of implementation difficulties. Moreover, ethical issues and challenges are significantly associated with ethical AI practices, indicating that teachers who comprehend these concerns are more likely to engage in responsible AI usage. These findings corroborate previous research underscoring the importance of ethical awareness in facilitating effective AI integration in education (Ifenthaler et al., 2024; Mahrishi et al., 2025) and emphasize the role of ethical considerations in guiding responsible AI utilization (Itani et al., 2025).

Presents the results of the multiple regression analysis, identifying the variables that significantly predicted teachers' ethical AI practices.

Variables	B	SE	Beta (β)	t-value	p-value	Interpretation
(Constant)	0.85	0.42	—	2.02	0.049	Significant
Awareness	0.28	0.10	0.32	2.80	0.008	Significant Predictor
Ethical Issues	0.35	0.11	0.41	3.18	0.003	Strong Predictor
Challenges	0.22	0.09	0.27	2.44	0.019	Significant Predictor

$R^2 = 0.52$ $F(3, 41) = 14.78$, $p < 0.001$

Table 5. Multiple Regression Analysis Predicting Ethical AI Practices

Table 5 presents the results of the multiple regression analysis, which identified the factors significantly affecting teachers' ethical AI practices. The results indicate that the overall model was statistically significant, demonstrating that awareness, ethical issues, and implementation challenges collectively influence ethical AI practices. The model accounted for a substantial proportion of the variance in ethical AI practices, underscoring the importance of these variables as predictors. Among these, ethical issues were the most potent predictor, followed by awareness and implementation challenges, all of which were statistically significant. This suggests that teachers who are more aware of ethical concerns, knowledgeable about AI guidelines, and adept at managing challenges are more likely to exhibit responsible AI practices in the classroom. These findings align with previous research, which highlights the significance of ethical awareness and teacher preparedness in the effective integration of AI (Deroncele-Acosta et al., 2024; Ifenthaler et al., 2024), and support the idea that adapting to emerging AI technologies enhances teaching and learning outcomes (Khakpaki, 2025). Furthermore, this is consistent with studies showing that the use of AI tools in classroom instruction can promote critical thinking and problem-solving skills, reinforcing the importance of responsible and effective AI integration in teaching practices (Anselmo et al., 2026).

Presents the results of a thematic analysis of the strategies recommended to improve the ethical implementation of AI in basic education.

Theme	Description	Responses
Teacher Training and Professional Development	Emphasizes the need for seminars, workshops, and continuous training on AI use and ethics	"More training for teachers about AI" "Training teachers and learners"
Student Awareness and Responsible Use	Focuses on guiding students to use AI ethically and not depend on it excessively	"Constant reminding not to depend on AI" "Encourage responsible use of AI tools"

Clear Policies and Guidelines	Highlights the importance of well-defined and clearly communicated DepEd AI policies	"Schools need governance structures" "Guidelines should be clearly explained"
Monitoring and Regulation	Suggests systems to monitor and control students' AI usage in academic work	"Monitor students' AI usage" "Ensure proper implementation and supervision"
Integration of Ethical Teaching Strategies	Encourages embedding ethical AI practices into teaching methods and classroom instruction	"Teaching strategies" "Promote ethical use during lessons"
Provision of Resources and Support	Points to the need for infrastructure, tools, and institutional support for AI implementation	"Schools need support and resources" "Provide access to appropriate AI tools"
Contextual and Practical Implementation	Recognizes that AI use should be adapted to school context and readiness	"AI is not applicable in our school…" "Implementation depends on available resources"

Table 6. Themes on Strategies to Improve Ethical AI Implementation

Table 6 presents the strategies for the ethical implementation of artificial intelligence in basic education. The findings highlight several key areas, including teacher training and professional development, student awareness for responsible AI use, clear policies and guidelines, and effective monitoring and regulation. It also emphasizes the integration of ethical teaching strategies, the provision of adequate resources and support, and the need to tailor implementation based on specific school contexts. Among these, teacher training emerged as the most emphasized strategy, underscoring the importance of enhancing educators' knowledge and skills for responsible AI use. Respondents also highlighted the need to guide students toward ethical AI practices to prevent overreliance and academic dishonesty. Furthermore, the importance of clear and well-communicated policies, along with effective monitoring systems, was identified to ensure proper implementation. Providing sufficient resources and adapting AI use to the school context were also considered essential. These findings align with previous research emphasizing that teacher preparedness, policy clarity, and institutional support are critical for the successful and ethical integration of AI in education (Deroncele-Acosta et al., 2024; Ifenthaler et al., 2024), and are further supported by studies highlighting the importance of pedagogical innovation and technology integration in enhancing teaching and learning environments (Ellorin et al., 2024).

Conclusion and Recommendations

The study shows that teachers have a decent grasp of the DepEd Foundational Guidelines on Artificial Intelligence in Basic Education. They generally recognize the ethical issues and challenges that come with using AI. Despite these hurdles, teachers are practicing responsible AI use in their classrooms, which underscores their crucial role in integrating technology ethically. The study also highlights that awareness, ethical issues, and challenges are all linked and significantly impact how teachers handle AI ethically. This suggests that boosting teachers' knowledge and understanding of AI guidelines is key to promoting responsible use. Moreover, there is a need for ongoing professional development, clearer policy implementation, and sufficient institutional support to help teachers effectively integrate AI into education. Educational institutions and policymakers should collaborate to offer training, resources, and monitoring systems that support ethical AI use. Future research might examine larger samples and varied contexts to better understand the long-term effects of AI in basic education.

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Competing Interests Statement

The authors declare that they have no known competing financial interests or personal relationships that could have influenced the work reported in this article.

Data Availability Statement

Data sharing is not applicable to this article, as no new data were created or analyzed in this study; all data used were obtained from previously published sources, as cited in the reference list.

References

Anselmo, C., Cahigas, J., Cabacungan, M., & Tolentino, J. (2026). Teachers' awareness and readiness in implementing the DepEd artificial intelligence guidelines in basic education. The International Review of Multidisciplinary Research, 1(3), 145–152. https://doi.org/10.5281/zenodo.18979842

Anselmo, C. T., Foronda, M. S., & Dumelod, D. A. (2026). *Smart tools, smarter minds: AI in the science classroom for critical thinking and problem solving* (pp. 82–106). Isabela State University. https://www.fsh-publication.com/storage/file/978-621-8438-17-0.pdf

Anselmo, C. T., Roleda, L. S., Saet, A. B., Agorilla-Sario, Y. T., Pascua, J. S., & Baui, D. T. (2026). Mobile Technology in Academia: Analyzing Student Perceptions and Utilization for Enhanced Learning Outcomes. Advances in Consumer Research, 3(2), 55–69. https://doi.org/10.5281/zenodo.18619903

Alejandro, I. M. V., Sanchez, J. M. P., Sumalinog, G. G., Mananay, J. A., Goles, C. E., & Fernandez, C. B. (2024). Pre-service teachers' technology acceptance of artificial intelligence (AI) applications in education. STEM Education, 4(4), 445–465. https://doi.org/10.3934/steme.2024024

Cacho, R. (2024). Integrating Generative AI in University Teaching and Learning: A Model for Balanced Guidelines. Online Learning, 28(3). https://doi.org/10.24059/olj.v28i3.4508

Department of Education (2026). DepEd Order No. 003, s. 2026: Foundational guidelines on artificial intelligence (AI) in basic education. https://www.deped.gov.ph/wp-content/uploads/DO_s2026_003r-1.pdf

Deroncele-Acosta, A., Bellido-Valdiviezo, O., Sánchez-Trujillo, M. D. L. Á., Palacios-Núñez, M. L., Rueda-Garcés, H., & Brito-Garcías, J. G. (2024). Ten Essential Pillars in Artificial Intelligence for University Science Education: A Scoping Review. Sage Open, 14(3). https://doi.org/10.1177/21582440241272016

Doğan, E., & Şahin, F. (2024). Advances in artificial intelligence in education: leading contributors, current hot topics, and emerging trends. Participatory Educational Research, 11(H. Ferhan Odabaşı Gift Issue), 95–113. https://doi.org/10.17275/per.24.96.11.6

Ellorin, F. N., Anselmo, M. C. C., Garcilian, R. B., & Anselmo, C. T. (2024). EXPLORING EDUCATORS' AND STUDENTS' PERSPECTIVES ON PEDAGOGICAL INNOVATIONS AND TECHNOLOGY INTEGRATION IN THE MODERN CLASSROO M. Ignatian International Journal for Multidisciplinary Research, 2(7), 607–635. https://doi.org/10.5281/zenodo.12783319

Holmes, W., Bialik, M., & Fadel, C. (2019). Artificial intelligence in education: Promises and implications for teaching and learning. Center for Curriculum Redesign.

Hussein, E., Hussein, M., & Al-Hendawi, M. (2025). Investigation into the Applications of Artificial Intelligence in Special Education: A Literature Review. Social Sciences, 14(5), 288. https://doi.org/10.3390/socsci14050288

Ifenthaler, D., Majumdar, R., Gorissen, P., Judge, M., Mishra, S., Raffaghelli, J., Shimada, A. (2024). Artificial intelligence in education: Implications for policymakers, researchers, and practitioners. Technology, Knowledge and Learning, 29(4), 1693–1710. https://doi.org/10.1007/s10758-024-09747-0

Itani, A., Gronseth, S. L., Musaad, S., Nguyen, T., Mirabile, Y., Beech, B. M. (2025). Ethical considerations for teaching with artificial intelligence: A scoping review in medical education settings. International Journal of Educational Technology in Higher Education, 22(1). https://doi.org/10.1186/s41239-025-00563-9

Vanova, M., Grosseck, G., Holotescu, C. (2024). Unveiling Insights: A Bibliometric Analysis of Artificial Intelligence in Teaching. Informatics, 11(1), 10. https://doi.org/10.3390/informatics11010010

Khakpaki, A. (2025). Advancements in artificial intelligence transforming medical education: A comprehensive overview. Medical Education Online, 30(1). https://doi.org/10.1080/10872981.2025.2542807

Kazimova, D., Tazhigulova, G., Shraimanova, G., Zatyneyko, A., & Sharzadin, A. (2025). Transforming university education with AI: A systematic review of technologies, applications, and implications. International Journal of Engineering Pedagogy (iJEP), 15(1), 4–24. https://doi.org/10.3991/ijep.v15i1.5077

Li, M., & Rohayati, M. I. (2024). A bibliometric analysis of artificial intelligence applications in global higher education. International Journal of Information System Modeling and Design, 16(1), 1–24. https://doi.org/10.4018/ijismd.3659133

Mahrishi, M., Abbas, A., & Siddiqui, M. K. (2025). Global initiatives Towards regulatory frameworks for artificial intelligence in higher education. Digital Government: Research and Practice, 6(2), 1–9. https://doi.org/10.1145/36724621
Nkonde, M. (2020). Algorithmic bias and AI ethics in education. Harvard University.
Paek, S., & Kim, N. (2021). Analysis of Worldwide Research Trends on the Impact of Artificial Intelligence in Education. Sustainability, 13(14), 7941. https://doi.org/10.3390/su13147941

Appendices

No appendices are attached to this study.