The International Review of
Multidisciplinary Research
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Teachers' Awareness and Readiness in Implementing the DepEd Artificial Intelligence Guidelines in Basic Education

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Abstract. Artificial intelligence (AI) is transforming education by enhancing instruction, personalizing learning, and improving teaching efficiency. In response, the Department of Education (DepEd) in the Philippines introduced AI Guidelines in Basic Education to promote ethical and responsible use of AI technologies in schools. The successful implementation of these guidelines depends on teachers' awareness, readiness, and challenges when integrating AI tools into classroom practices. This study examined teachers' awareness of the DepEd AI guidelines, their readiness to implement AI in teaching, and the challenges they face in adopting AI technologies, while exploring the relationships among these variables. This study used a descriptive–correlational research design involving 60 public school teachers from elementary to senior high school selected through purposive sampling. Data were collected using a structured questionnaire with four sections: demographic profile, teachers' awareness, teachers' readiness, and challenges in AI implementation. The data were analyzed using frequency and percentage, mean and standard deviation, and Pearson product–moment correlation. The results revealed that teachers demonstrated high awareness of the DepEd AI guidelines (overall mean = 3.34) and high readiness to integrate AI in teaching (overall mean = 3.46). However, teachers reported challenges, particularly the need for additional training and professional development and limited internet connectivity in schools. A significant positive relationship was found between teachers' awareness and readiness, while the relationships between awareness, readiness, and challenges were not statistically significant. These findings suggest that although teachers are aware and prepared to adopt AI in education, sustained institutional support, improved infrastructure, and continuous professional development are necessary for the effective implementation of the DepEd AI guidelines in basic education.

Introduction

Artificial intelligence (AI) is making waves in various fields, such as education, healthcare, and industry, by enhancing processes and introducing new capabilities. In the field of education, many countries are leveraging AI to boost teaching methods, tailor learning experiences, and keep students engaged. AI-driven learning platforms are designed to adapt to individual needs, provide instant feedback, and offer personalized content, which in turn encourages student interaction and helps them acquire digital skills (Jalali et al., 2025; Wu & Zhang, 2025). Globally, there is a strong emphasis on the importance of digital skills and the responsible use of AI in education, focusing on principles such as fairness, transparency, and accountability(Al-Zahrani & Alasmari, 2024; Saklaki & Gardikiotis, 2024). Teachers are pivotal in this transformation, as they need to be adept at using AI tools effectively and responsibly to shape the future of teaching and learning(Yang et al., 2025). In the Philippines, the Department of Education (DepEd) is integrating digital tools to modernize the educational

landscape. They have introduced AI guidelines for basic education to steer the use of AI in teaching, assessment, and school management. These guidelines encourage educators to incorporate AI tools while upholding ethical standards. The success of this initiative hinges on teachers being informed, skilled, and prepared to integrate AI into their work. Research indicates that Filipinos benefit from user-friendly AI, institutional support, and training programs that cover both technology and ethics. Addressing challenges, such as unequal access to technology, is crucial for ensuring equitable AI use in Philippine schools(Alejandro et al., 2024; Espartinez, 2025; Yue et al., 2024).

Teachers are key to bringing new educational policies and innovations into the classroom. For AI to make a real difference in education, teachers need to be equipped with the right knowledge, skills, and readiness to use these AI tools effectively. However, many teachers run into obstacles, such as insufficient training, lack of technological resources, and lack of understanding of AI guidelines. These challenges can slow down the adoption of AI-driven educational strategies. Therefore, it is important to examine teachers' awareness and readiness to determine whether schools are truly prepared to implement AI-related policies. Without a good understanding of teachers' preparedness, these policies might be inconsistent or ineffective, which would limit the benefits of AI in education. Although there is growing global interest in using AI in education, there is little research on teachers' awareness and readiness to implement the Department of Education (DepEd) Artificial Intelligence Guidelines in the Philippine basic education system. Many studies focus on general technological integration or digital learning, but not on teachers' readiness to implement AI policies. This study aims to evaluate teachers' awareness, readiness, and the challenges they face in implementing the DepEd AI Guidelines. The findings are expected to improve teacher training programs and policy implementation strategies to support the effective use of AI in education. Ultimately, addressing these concerns can enhance the quality of education and ensure that AI integration aligns with teaching goals and national education standards. Therefore, this study aims to determine the level of teachers' awareness, readiness, and challenges in implementing the DepEd Artificial Intelligence Guidelines in basic education and to examine the relationship among these variables.

Statement of the Problem

This study aimed to determine teachers' awareness of and readiness to implement the Department of Education (DepEd) Artificial Intelligence Guidelines in basic education.
Specifically, this study sought to answer the following questions:
➢ What is the teachers' level of awareness of the DepEd Artificial Intelligence Guidelines in Basic Education?
➢ What is teachers' readiness for implementing artificial intelligence in teaching and learning?
➢ What challenges do teachers encounter when implementing AI in the classroom?
➢ Is there a significant relationship between teachers' awareness, readiness, and challenges in implementing DepEd artificial intelligence guidelines?

Methodology

Research Design

This study employed a descriptive–correlational research design to examine teachers' awareness, readiness, and challenges in implementing the Department of Education (DepEd) artificial intelligence (AI) guidelines in basic education. The descriptive approach was utilized to evaluate teachers' levels of awareness, readiness, and the challenges encountered in integrating AI into teaching and learning. Simultaneously, the correlational approach was applied to determine whether a significant relationship exists among teachers' awareness, readiness, and challenges in implementing the DepEd AI guidelines. This research design is considered appropriate as it allows the researcher to describe existing conditions and explore the relationship between variables without manipulation.

Participants and Sampling Technique

The study involved 60 public school teachers from elementary, junior high, and senior high schools. These educators were selected for their direct involvement in implementing educational policies and integrating technology into the classroom instruction. A purposive sampling method was employed, selecting respondents based on specific criteria, including current employment as public school teachers and willingness to participate in the study. This approach ensured that the participants possessed relevant experience and knowledge concerning the implementation of DepEd artificial intelligence guidelines.

Research Instrument

The primary instrument employed in this study was a structured survey questionnaire meticulously designed to assess teachers' awareness, readiness, and challenges in implementing DepEd artificial intelligence guidelines. This questionnaire was adapted and modified from prior studies on technology integration and digital readiness in education. The instrument comprised four sections. Section I collected the demographic profiles of the respondents, including age, gender, highest educational attainment, years of teaching experience, and teaching level. Section II contained eight statements evaluating teachers' awareness of the DepEd AI guidelines. Section III included eight statements assessing teachers' readiness to integrate AI tools in teaching and learning. Section IV consisted of eight statements identifying the challenges faced by teachers in implementing AI in the classroom. A four-point Likert scale was utilized to measure participants' responses. The questionnaire was validated by experts in the fields of education and educational technology to ensure its clarity, relevance, and reliability.

Data Gathering Procedure

Before conducting the study, the researcher secured permission from the school authorities to administer the survey questionnaire to the selected respondents. After obtaining approval, the researcher distributed questionnaires to the identified teachers.
The purpose of the study was explained to the respondents, who were informed that their participation was voluntary. The respondents were given sufficient time to complete the questionnaire. After completing the survey, the questionnaires were collected, and the responses were organized for data analysis.

Data Analysis Procedure

The collected data were analyzed using appropriate statistical tools to answer the research questions. Frequency and percentage were used to describe the demographic profile of the respondents. The mean and standard deviation were used to determine teachers' levels of awareness, readiness, and challenges in implementing the DepEd AI guidelines. Pearson product–moment correlation (Pearson r) was used to determine whether there was a significant relationship among teachers' awareness, readiness, and challenges in implementing the DepEd AI guidelines.

Ethical Considerations

Ethical principles were strictly observed throughout the study. Participation in the research was voluntary, and the respondents were informed of the purpose and procedures of the study before answering the questionnaire. The researcher ensured that all responses were treated confidentially and anonymously. The respondents' personal information was not disclosed, and the collected data were used solely for academic and research purposes. The respondents were also informed that they had the right to withdraw from the study at any time without any consequences.

Results and Discussion

Profile of Respondents According to Age, Sex, Highest Educational Attainment, Years of Teaching Experience, Teaching Level, Employment Status, and Employee Type
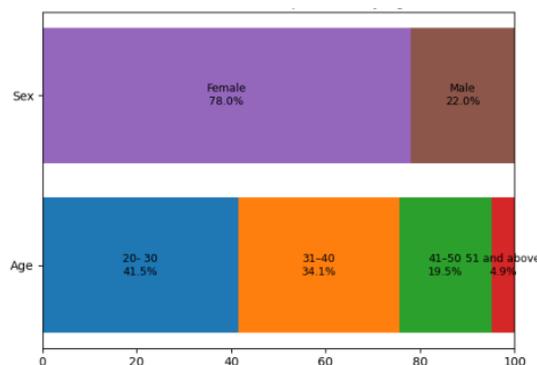

Figure 1. Distribution of Respondents According to Age and Sex

Figure 1 presents the combined distribution of respondents according to age and sex. The results showed that the majority of the respondents belonged to the 20–30 age group (41.5%), followed by those aged 31–40 (34.1%). Meanwhile, 19.5% of

the respondents were aged 41–50 years, and only 4.9% were aged 51 years and above. The majority of respondents were female (78.0%), while 22.0% were male. This indicates that most of the teachers who participated in the study were relatively young and predominantly female.

Profile of Respondents According to Educational Attainment, Teaching Experience, Teaching Level, Employment Status, and Employee Type
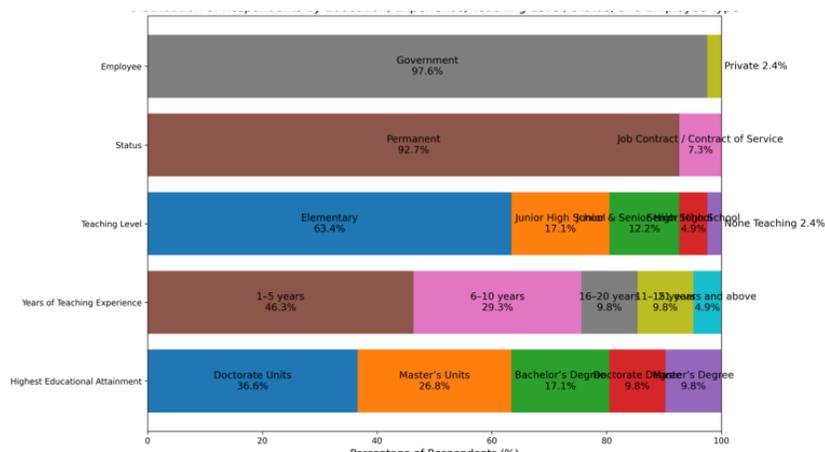

Figure 2. Distribution of Respondents According to Highest Educational Attainment, Years of Teaching Experience, Teaching Level, Employment Status, and Employee Type

Figure 2 illustrates the distribution of respondents according to their highest educational attainment, years of teaching experience, teaching level, employment status, and employee type. The data indicate that the majority of respondents had completed doctorate units (36.6%), followed by those with master's units (26.8%) and bachelor's degrees (17.1%). Regarding teaching experience, most respondents had 1–5 years of experience (46.3%), with 6–10 years being the next most prevalent (29.3%). Regarding teaching level, the majority were engaged at the elementary level (63.4%), while 17.1% taught in junior high school and 12.2% in senior high school. Concerning employment status, the majority were permanent teachers (92.7%), with only 7.3% on job or service contracts. Finally, most respondents were government employees (97.6%), with only 2.4% employed in private institutions. Overall, the data suggest that the respondents were predominantly elementary teachers with relatively limited teaching experience and were primarily employed as permanent government teachers.

Level of Teachers' Awareness of the DepEd Artificial Intelligence Guidelines in Basic Education

Statement	Mean	SD	Interpretation
I am aware that DepEd has released guidelines on the use of AI in education.	3.24	0.97	Aware
I am familiar with the objectives of the DepEd 'sartificial intelligence guidelines.	2.90	0.97	Aware
I understand the role of artificial intelligence in enhancing teaching and learning.	3.29	0.72	Highly Aware
I am aware of the ethical considerations for using AI tools in the classroom.	3.29	0.87	Highly Aware
I am aware of the benefits of using AI to support my instructional activities.	3.54	0.71	Highly Aware
I am aware of the possible risks and limitations of using AI in education.	3.41	0.77	Highly Aware
I am aware of how AI can assist teachers in lesson planning and assessment.	3.46	0.74	Highly Aware
I understand the importance of responsible and ethical AI use in education.	3.61	0.74	Highly Aware
Overall mean	**3.34**		**Highly Aware**

Table 1 Teachers' Awareness of DepEd AI Guidelines

Table 1 presents the results, which suggest that teachers exhibit a commendable level of awareness regarding the DepEd Artificial Intelligence Guidelines, with an overall mean of 3.34, interpreted as highly aware. This indicates that teachers appreciate the significance of AI and its potential role in enhancing teaching and learning processes. The highest rating was associated with understanding the importance of responsible and ethical AI use, highlighting that teachers recognize the necessity of ethical considerations when employing AI tools in education. Previous studies underscore that awareness and understanding of AI concepts are crucial for educators to effectively and responsibly integrate AI technologies into the

classroom (Al-Abdullatif, 2025). Moreover, familiarity with AI applications and objectives empowers teachers to design more personalized and innovative learning experiences for students (Altinay et al., 2024). Awareness of both the benefits and limitations of AI is also important, as it enables teachers to balance technological innovation with ethical responsibility in educational practice (Cacho, 2024; Chavarria et al., 2025). Similarly, AI tools can assist teachers in lesson planning, assessment, and instructional delivery, thereby enhancing efficiency and student engagement (Surugiu et al., 2024; Traga Philippakos & Rocconi, 2025). These findings suggest that teachers already possess a foundational understanding of AI integration, which can support further professional development initiatives aimed at strengthening AI competencies and promoting responsible use of AI in education (Kim, 2024; Yau et al., 2022).

Level of Teachers' Readiness in Implementing Artificial Intelligence in Teaching and Learning

Statement	Mean	SD	Interpretation
I am ready to integrate AI tools into my teaching strategy.	3.46	0.74	Highly Ready
I feel confident using AI tools to prepare lesson materials.	3.22	0.79	Ready
I would like to learn more about AI technology in education.	3.61	0.54	Highly Ready
I am ready to attend training related to the use of AI in my teaching.	3.83	0.44	Highly Ready
I am prepared to use AI tools to support students' learning activities.	3.37	0.80	Highly Ready
I am ready to apply DepEd AI guidelines in my classroom practice.	3.41	0.89	Highly Ready
I believe that AI can be used to evaluate students' performances.	3.20	0.71	Ready
I am prepared to follow ethical standards when using AI tools for teaching.	3.61	0.67	Highly Ready
Overall Mean	**3.46**		**Highly Ready**

Table 2 Teachers' Readiness in Implementing DepEd AI Guidelines

The findings indicate that educators encounter several challenges in integrating AI into classroom settings, with an overall mean score of 3.02, interpreted as agreement. The primary challenges identified include the necessity for additional training and professional development, as well as limited internet connectivity within schools. These results suggest that although educators may be cognizant of and prepared to incorporate AI technologies, the absence of sufficient resources and training can impede their effective implementation. Previous research has similarly highlighted inadequate training as a significant barrier affecting educators' ability to effectively utilize AI tools in educational environments (Melo-López et al., 2025). Furthermore, restricted access to technology and internet connectivity hinders the integration of AI, particularly in schools with insufficient technological infrastructure (Lavaux et al., 2025). Ethical concerns related to AI usage, including privacy, bias, and accountability issues, may also impact educators' willingness to adopt AI technologies in teaching (Azman & Tümkaya, 2025; Jalali et al., 2025). Additionally, the lack of technical support within schools can further constrain educators' ability to effectively employ AI tools (Bower et al., 2025; Mosly, 2024). Addressing these challenges through enhanced infrastructure, training programs, and institutional support is crucial for facilitating the effective integration of AI in education.

Challenges Encountered by Teachers in Implementing Artificial Intelligence in the Classroom

Statement	Mean	SD	Interpretation
I lack sufficient training in the use of AI in teaching.	2.88	0.98	Agree
Limited access to technology affects my ability to use AI tools.	2.85	1.11	Agree
I find it difficult to integrate AI tools into my teaching practice.	2.27	1.05	Disagree
There is insufficient guidance on the implementation of the DepEd AI guidelines.	2.63	0.94	Agree
I am concerned about the ethical implications of using AI in education.	3.17	0.74	Agree
The lack of technical support in schools limits the use of AI tools.	2.90	1.00	Agree
Limited Internet connectivity affects the use of AI technologies.	3.66	0.48	Strongly Agree
Teachers require additional training and professional development related to AI integration.	3.72	0.46	Strongly Agree
Overall Mean	**3.02**		**Agree**

Table 3 Challenges in Implementing AI

The results show that teachers experience several challenges in implementing AI in the classroom, with an overall mean of 3.02, interpreted as agree. The most significant challenges identified were the need for additional training and professional development and limited internet connectivity in schools. These findings indicate that while teachers may be aware of and ready to integrate AI technologies, the lack of adequate resources and training can hinder their effective implementation.

Previous studies have similarly identified insufficient training as a major barrier that affects teachers' ability to use AI tools effectively in educational settings (Melo-López et al., 2025). Limited access to technology and internet connectivity also restricts the integration of AI, particularly in schools with inadequate technological infrastructure (Lavaux et al., 2025). Ethical concerns regarding the use of AI, including issues related to privacy, bias, and accountability, may also influence teachers' willingness to adopt AI technologies in teaching (Azman & Tümkaya, 2025; Jalali et al., 2025). In addition, the lack of technical support within schools can further limit teachers' ability to utilize AI tools effectively (Bower et al., 2025; Mosly, 2024). Addressing these challenges through improved infrastructure, training programs, and institutional support is essential for promoting the effective integration of AI in education.

Relationship Among Teachers' Awareness, Readiness, and Challenges in Implementing the DepEd Artificial Intelligence Guidelines

Variables	Pearson r	p-value	Interpretation
Awareness and Readiness	0.655	0.000	Significant Positive Relationship
Awareness and Challenges	-0.213	0.180	Not Significant
Readiness and Challenges	**-0.211**	**0.185**	**Not Significant**

Table 4 Significant Relationship Among Teachers' Awareness, Readiness, and Challenges in Implementing the DepEd AI Guidelines

Table 4 shows that a significant positive relationship existed between teachers' awareness and readiness to implement DepEd artificial intelligence guidelines (r = 0.655, p < 0.05). This indicates that teachers who have greater awareness and understanding of artificial intelligence policies and applications tend to be more prepared to integrate artificial intelligence technologies into their teaching practices. Increased awareness can improve teachers' confidence and willingness to adopt innovative instructional strategies supported by artificial intelligence. Similar findings were reported in previous studies, which emphasized that teachers' knowledge and awareness of artificial intelligence significantly influences their readiness to use artificial intelligence tools in educational settings (Liu, 2025). However, the relationships between awareness and challenges and between readiness and challenges were not statistically significant. This suggests that the challenges encountered by teachers may not directly affect their level of awareness or readiness to implement artificial intelligence guidelines. Instead, these challenges may be associated with external factors, such as limited technological resources, infrastructure constraints, and institutional support. Previous research also indicates that barriers such as digital inequality and resource limitations can affect the successful integration of artificial intelligence in education, regardless of teachers' readiness (Ren & Wu, 2025). Therefore, strengthening institutional support systems, improving infrastructure, and providing continuous professional development are essential to support teachers in effectively implementing artificial intelligence in educational environments (Sanusi et al., 2023)

Summary

This descriptive–correlational study examined public school teachers' awareness, readiness, and challenges in applying the Philippine Department of Education (DepEd) artificial intelligence (AI) guidelines in basic education, addressing a gap in local evidence on policy-focused AI implementation. Using a purposively selected sample of 60 teachers across elementary, junior high, and senior high levels, researchers administered a validated structured survey (four sections: demographics; eight items each for awareness, readiness, and challenges) rated on a four-point Likert scale; data were analyzed through descriptive statistics and Pearson correlation. Participants were predominantly young (20–30 years: 41.5%; 31–40:34.1%), female (78.0%), elementary teachers (63.4%), with 1–5 years of experience (46.3%), permanent (92.7%) government employees (97.6%), and had advanced postgraduate coursework (doctorate units: 36.6%; master's units: 26.8%). Results showed teachers were highly aware of the DepEd AI guidelines (overall mean = 3.34), with strong endorsement for responsible and ethical AI use, and highly ready to integrate AI in teaching (overall mean = 3.46), showing willingness to attend AI-related training. Teachers faced implementation barriers (overall mean = 3.02), particularly needing additional training and limited school internet connectivity, alongside concerns about resource constraints, technical support gaps, and ethical issues. Correlational findings revealed a significant positive association between awareness and readiness (r = 0.655, p < 0.05), suggesting greater policy understanding aligns with stronger preparedness to adopt AI practices; however, relationships between awareness and challenges, and readiness and challenges, were not significant, indicating barriers stem more from external conditions than teachers' dispositions. While teachers are positioned to adopt AI responsibly under DepEd guidance, successful implementation depends on institutional support—particularly professional development, improved connectivity, clearer guidance, and technical support—and recommends research in larger settings.

Conclusion and Implications

This study investigated teachers' awareness, readiness, and challenges in implementing the DepEd Artificial Intelligence Guidelines in Basic Education. The findings indicated that teachers exhibited a high level of awareness and were well-prepared to integrate AI tools into teaching and learning. However, they faced several challenges, notably the need for additional training and professional development, as well as limited internet connectivity in schools. The results also demonstrated a significant positive correlation between teachers' awareness and readiness, suggesting that those with greater awareness of AI guidelines were more prepared to implement them. Nonetheless, the relationship between awareness, readiness, and challenges was not statistically significant. These findings suggest that while teachers are generally prepared to adopt AI in education, institutional support, infrastructure enhancement, and ongoing professional development programs are essential to address existing challenges and ensure the effective and responsible implementation of AI in schools.

Recommendation

The findings of this study suggest that the Department of Education and school administrators should implement ongoing training and professional development programs to enhance teachers' proficiency in utilizing AI for teaching and learning. Additionally, schools should improve internet connectivity and technological resources to facilitate the effective use of AI tools in the classroom. Furthermore, clear guidelines and technical support should be provided to assist teachers in implementing AI responsibly and effectively. Future research may involve conducting similar studies with larger samples or in different educational settings to further investigate teachers' awareness, readiness, and challenges in integrating AI into education.

Acknowledgements

Funding

Competing Interests Statement

The authors declare that they have no competing interests in this study.

Data Availability Statement

Access to the data used in this study was obtained by submitting a formal request to the study author.

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Appendices

This article contains no appendices.