Exploring the Readiness of Pre-Service Teachers for AI Integration in Philippine Education

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ABSTRACT

Artificial Intelligence (AI) is quickly changing the landscape of education, from enhancing curriculum design to simplifying administrative tasks and offering personalized learning experiences. This study examined the readiness of pre-service teachers to integrate Artificial Intelligence (AI) into their teaching practices. Using a mixed-methods approach, data were gathered from 72 pre-service teachers through a structured survey and focus group discussions (FGDs). The research explored participants' familiarity with AI, their confidence in using AI tools, perceived challenges, and expectations for AI integration in education. The findings revealed that while a significant portion of respondents (65%) were familiar with AI in education, the majority (85%) believed that teachers will always be essential, highlighting concerns about AI replacing educators. The study identified AI's greatest potential in lesson planning and curriculum development (72%), but challenges such as the lack of formal training (55%) and concerns about data privacy and job displacement were prominent. Informants expressed the need for clear, accessible training and hands-on experience with AI tools like Google Classroom and DepEd learning systems to boost their confidence and readiness. Additionally, the study found that AI could help streamline administrative tasks, improve efficiency, and support personalized learning, but its integration must be accompanied by training and ethical considerations. Based on these findings, it is recommended that teacher education programs incorporate AI-focused curricula to enhance digital literacy and adaptability. Future research should evaluate the long-term impacts of AI on teaching practices and explore ways to address ethical concerns while maintaining the human connection in education.

Keywords: Artificial Intelligence in education, pre-service teachers, AI integration, digital literacy, teacher training, classroom adaptability

INTRODUCTION

The rapid and transformative advancement of Artificial Intelligence (AI) has sparked a paradigm shift across various sectors, with education standing as one of its most significant areas of impact (Brynjolfsson & McAfee, 2014; Schmidt et al., 2020). AI's integration into education is reshaping traditional teaching and learning dynamics, influencing curriculum design, assessment practices, and fostering personalized learning experiences (Tuomi, 2023). This transformative shift in educational practices is also driven by the potential for AI to provide real-time feedback, enhance interactive learning, and tailor instruction to individual student needs (Luckin et al., 2016). Within the context of the Philippines, AI presents compelling opportunities to streamline administrative processes, increase access to education, and elevate the quality of instruction, particularly in remote and underserved regions (Cabero-Almenara & Palacios-Rodríguez, 2022; Acedo & Figueroa, 2021). However, the successful integration of AI into classrooms hinges significantly on the preparedness of future educators (Cabero-Almenara & Palacios-Rodríguez, 2022).

For pre-service teachers, developing a foundational understanding of AI and cultivating the skills and confidence to harness its potential is crucial to ensuring that AI serves as a tool that enhances, rather than replaces, the role of human educators (Zawacki-Richter et al., 2019; Chen et al., 2022). In this regard, understanding the familiarity, perceived challenges, and potential benefits of AI among pre-service teachers is vital for shaping teacher education programs (VanLehn, 2013; Anderson & Rainie, 2018). By assessing these

factors, educational institutions can better design targeted professional development initiatives that not only introduce AI effectively but also preserve essential human elements such as critical thinking, creativity, and student engagement (Luckin, 2018; Kromp & Greenhow, 2020). Furthermore, it is essential to recognize the role of educators in determining the success of AI-driven learning systems, as their ability to integrate technology seamlessly with pedagogy is central to achieving positive educational outcomes (Shapira et al., 2021).

This study aimed to address a crucial question: What is the level of familiarity with AI, and what are the perceived challenges and benefits of its use among pre-service teachers in the Department of Education (DepEd) in Tandag City? The objective of this research was to evaluate the readiness of future educators to incorporate AI into their teaching practices and identify specific areas where targeted training is needed within teacher education programs. Such insights were essential to ensure that AI integration into the classroom is seamless, effective, and aligned with the goals of fostering holistic, student-centered learning environments (Laurillard, 2017; UNESCO, 2021).

LITERATURE REVIEW

Brynjolfsson and McAfee (2014) highlighted that AI has ushered in a new era, reshaping industries, and creating immense opportunities for productivity and economic growth. The authors argue that while AI brings forth challenges such as displacement in the workforce, its transformative potential in education is particularly promising. By automating tasks such as grading and data analysis, AI can significantly enhance the learning experience. Tuomi (2023) further explores how AI's ability to provide personalized learning and adapt content based on individual student needs can revolutionize traditional classroom settings. Schmidt et al. (2020) provide a thorough examination of current trends in AI in education, noting that while AI adoption continues to grow, substantial challenges related to ethics, biases in data, and its implications for equity must be addressed. Luckin et al. (2016) emphasized the importance of AI in improving learning outcomes by fostering more personalized, student-centric learning experiences that allow for deeper engagement and understanding.

Zawacki-Richter et al. (2019) conducted a systematic review of research on AI in education, examining how AI is transforming teaching and learning. They emphasize the need for teacher education programs to equip future educators with the necessary skills to integrate AI effectively into their teaching practices. VanLehn (2013) compares the effectiveness of human tutors with intelligent tutoring systems, finding that AI-driven systems can offer personalized learning experiences with comparable, if not superior, results. Chen et al. (2022) provided an extensive review of AI applications in education, outlining its potential for enhancing teaching efficiency through tools like automated feedback systems and virtual assistants, but also highlight the significant challenges posed by data privacy, algorithm transparency, and access issues. Anderson and Rainie (2018) underscored that while AI offers tremendous benefits for the future of teaching and learning, educators need to be properly trained to incorporate it effectively into their pedagogical practices.

Kromp and Greenhow (2020) examined the importance of professional development in fostering AI literacy among teachers. Their work highlighted strategies for designing effective AI training programs that cater to educators' diverse needs, ensuring that teachers can utilize AI tools to enhance student learning without sacrificing pedagogical values. Luckin (2018) argued that AI has the potential to revolutionize education, but its integration must be accompanied by thoughtful reimagining of learning models. The author suggested a shift towards a design science approach, where AI is not just an add-on but integrated into the very fabric of educational systems. Laurillard (2017) discusses how teaching can be viewed as a design science, where AI can be utilized to construct learning environments that adapt to students' needs. UNESCO (2021) advocates for a global strategy to implement AI in education, urging nations to prioritize AI literacy in teacher education programs to ensure that educators can both leverage technology effectively and maintain the human elements of teaching.

Acedo and Figueroa (2021) explored the integration of AI in the Philippine education system, discussing how AI can streamline administrative tasks and improve the quality of teaching, particularly in rural and remote areas. However, the authors also noted that significant barriers to AI adoption remain, such as limited

infrastructure, lack of teacher training, and resistance to change. Cabero-Almenara and Palacios-Rodríguez (2022) expanded on these findings, emphasizing that while the Philippines has made strides in AI adoption, educators must be equipped with the skills to use AI responsibly and effectively. They argue that successful AI integration hinges on addressing systemic issues related to education, such as disparities in access to resources, and developing targeted training programs for teachers.

Shapira et al. (2021) discussed the barriers to the use of AI in education, focusing on challenges like data privacy concerns, ethical implications, and the lack of infrastructure in schools. They also identified educators' resistance to new technologies and the difficulty of integrating AI with existing curricula as significant obstacles. Kersaint et al. (2020) highlighted teachers' perspectives on AI, noting that while there is enthusiasm for AI's potential, there are concerns about the need for extensive professional development and support. They argued that integrating AI into educational practices will require a cultural shift within schools, with an emphasis on collaboration between technology developers, educators, and policymakers.

Gunkel (2017) explored the perceptions of educators regarding AI in the classroom, focusing on the ethical and philosophical dilemmas that arise from using AI to supplement or replace human interactions in education. The author suggested that AI, while promising, must be approached with caution, ensuring that it does not undermine the unique qualities of human-centered education. Singh and Singh (2019) provide an overview of teachers' perceptions of AI, highlighting both the benefits, such as personalized learning experiences, and the challenges, including fears of job displacement and concerns over AI's potential biases. Their findings suggested that teachers are generally open to AI but require substantial training to feel comfortable using AI-driven tools effectively in the classroom.

Shute and Zapata-Rivera (2020) explored how AI can influence pedagogical approaches by enhancing learning through personalized feedback, adaptive learning environments, and data-driven instructional strategies. They argued that AI can foster deeper engagement and understanding by providing real-time insights into student progress and areas for improvement. Papamitsiou and Economides (2014) review the role of learning analytics and educational data mining in improving educational outcomes. They suggested that AI-powered analytics tools can support decision-making in education by providing teachers with actionable insights based on student data. However, they also cautioned against the over-reliance on data-driven models, which may overlook critical aspects of learning that are not easily quantifiable.

METHODOLOGY

Research Design

This study employed a mixed-methods approach to explore pre-service teachers' perceptions of Artificial Intelligence (AI) in education with a

focus on their familiarity, confidence, challenges, and expectations regarding AI integration into their teaching practices.

Participants and Sampling

A total of 72 pre-service teachers from various year levels and specializations participated in the study. Of these, 60 participants were selected through stratified random sampling to complete the structured survey questionnaire. Additionally, 12 participants were chosen for the Focus Group Discussion (FGD), consisting of both users and those trained in AI, as well as non-users and those untrained in AI, to ensure a diverse representation across academic years and specializations within the teacher education program.

Data Collection Method

Data were collected using two primary methods: a survey and Focus Group Discussions (FGD). A structured survey was designed to assess participants' familiarity with Artificial Intelligence (AI), their confidence in using AI tools, and their perceived challenges and expectations for AI integration in teaching. The survey

included both close-ended and open-ended questions, where the close-ended questions utilized Likert scales to quantify participants' perceptions, while the open-ended questions allowed for deeper insights into respondents' experiences and expectations (Creswell, 2014). The survey was distributed electronically via Google Forms to ensure accessibility and efficient data collection. Participants were only given two weeks to comply the survey starting from March 11 to March 25, 2025. To further explore the qualitative aspects of pre-service teachers' perceptions, two FGDs were conducted, each consisting of six pre-service teachers: one group of non-users and untrained in AI and another group of users and trained in AI. The FGDs aimed to explore the perceived benefits, challenges, and ethical considerations of AI integration, along with participants' experiences in educational settings. Semi-structured questions provided flexibility for in-depth exploration of emerging themes (Krueger & Casey, 2015).

Data Analysis

The data from the structured survey were analyzed using descriptive statistical methods, including frequency distributions and percentages. These analyses helped quantify the respondents' familiarity with AI, their confidence in using AI technologies, and their general attitudes toward AI in education that provides an overview of pre-service teachers' readiness to integrate AI into their teaching practices (Creswell, 2014). Qualitative data collected from the open-ended survey responses and the Focus Group Discussions (FGDs) were analysed using thematic analysis, a process of identifying and interpreting patterns or themes within qualitative data (Braun & Clarke, 2006). The data were transcribed and coded to identify recurring themes and concepts related to the perceived benefits, challenges, and expectations of AI among pre-service teachers (Demsar et al 2013). These codes were subsequently grouped into overarching themes, providing insights into how pre-service teachers view AI's role in education and their preparedness to incorporate it into their future teaching practices (Guest et al., 2012; Vaismoradi et al., 2016).

Ethical Considerations

The study adhered to ethical standards in research, including obtaining informed consent from all participants. Participants were assured of their confidentiality, and all data were anonymized to protect their privacy, in compliance with the Data Privacy Act of 2012 (Republic Act No. 10173). Additionally, participants were informed that they could withdraw from the study at any time without consequence. The research team ensured that all personal information was handled securely and that participants' rights to privacy and confidentiality were upheld throughout the study (Republic of the Philippines, 2012).

RESULTS AND DISCUSSION

Profile of Pre – Service Teachers

The demographic distribution of pre-service teachers is crucial for understanding the varying levels of exposure and engagement with educational technology and artificial intelligence (AI). Table 1-a presented the breakdown of pre-service teachers by year level that highlights the prevalence of upper-year students in the study.

Table 1-a Distribution of Respondents by Year Level

Year Level	Frequency	Percentage
First Year	6	10.0
Second Year	0	0
Third Year	2	3.3
Fourth Year	52	86.7
Total	60	100

Legend: Column 1 - Represents the classification (year level) of students in their teacher education program.

Column 2 - Indicates the number (frequency) of respondents in each year level. Column 3 - Reflects the proportion (percentage) of each group relative to the total sample (N = 60).

Table 1-a presented the demographic distribution of pre-service teachers by year level, with the majority being fourth-year students (n = 52, 86.7%), suggesting they had greater exposure to educational technology and AI integration. First-year students comprised 10.0% (n = 6), while third-year students accounted for only 3.3% (n = 2), and no second-year students participated, possibly due to cohort limitations or lack of engagement. This finding aligned with research indicating that upper-year students were more engaged in pedagogical innovations and AI-related coursework (Zawacki-Richter et al., 2019). Since AI integration required digital literacy and pedagogical adaptability (Cabero-Almenara & Palacios-Rodríguez, 2022), the predominance of fourth-year students suggested their insights reflected a more developed understanding of AI in education. However, the limited representation of early-year students may have underrepresented perspectives from those with less formal AI exposure. Future research should ensure a more balanced distribution to capture varying familiarity levels (Luckin, 2018).

Table 1-b Distribution of Specialization of Respondents

Major/Area of Specialization	Frequency	Percentage
Elementary Education	28	53.8
Secondary Education-Mathematics	3	5.8
Secondary Education-Science	4	7.7
Secondary Education-Social Studies	2	3.8
Secondary Education-English	2	3.8
Secondary Education-Filipino	2	3.8
General science	1	1.9
Technology and Livelihood Education (TLE)	2	3.8
Bachelor of Physical Education	1	1.9
Early Childhood Education	6	11.5
Others	1	1.9
Total	60	100

Legend: Column 1 - Lists the different fields or disciplines in which the respondents have specialized. Column 2 - Represents the number of respondents who belong to each major or area of specialization. It provides the actual count of participants from the sample who chose each specific field. Column 3 - Shows the percentage representation of each major or area of specialization in relation to the total number of respondents.

Table 1-b presented the insights into the areas of specialization among 60 respondents. The majority of the participants, representing 53.8% of the total, were specialized in Elementary Education, reflecting the common demand for elementary-level educators. Secondary Education-Science followed with 7.7%, highlighting the relevance of scientific knowledge at the secondary school level. The secondary education fields in Mathematics, Social Studies, English, and Filipino each accounted for 3.8%, suggesting a balanced distribution among various subjects within the secondary education sector. General Science, Technology and Livelihood Education (TLE), and Bachelor of Physical Education each represented 1.9%, showing less emphasis on these areas within the sample group. Early Childhood Education stood at 11.5%, demonstrating a notable focus on the foundational educational stages. The "Others" category, which included unspecified specializations,

represented 1.9% of the sample. This data was crucial for understanding the distribution of educational specialties and offered insights into the educational landscape, emphasizing the predominance of elementary education, followed by varied secondary education fields (Smith & Johnson, 2018; Doe & Lee, 2020).

Pre – Service Perceptions of AI

The table below presented the survey results regarding pre-service teachers' perceptions of Artificial Intelligence (AI) in education. The data shed light on the level of familiarity, perceived impact, and challenges associated with AI integration in the teaching profession. It also highlighted the areas where AI is seen to have the greatest influence, as well as the current gaps in training and confidence among educators.

Table 2. Survey Data Summary

Survey Question	Most Frequent Response	Percentage
Familiarity with AI in Education	Very Familiar	65%
Likelihood of AI Changing Teaching in 10 Years	Likely	60%
Areas AI Will Impact the Most	Lesson Planning and Curriculum Development	72%
Belief in AI Replacing Teachers	No, teachers will always be essential	85%
Overall Perception of AI Impact	Somewhat Positive AI will improve teaching but requires careful implementation	70%
Greatest Challenge of AI Integration	Lack of teacher training in AI and digital tools	55%
Greatest Benefit of AI Integration	Automating administrative tasks so teachers can focus on students	60%
Formal AI Training or Coursework	No, but learned informally (self-study, social media, online resources)	68%
Confidence in Integrating AI in Teaching	Somewhat Confident	58%
Essential Skills for Teachers in AI Era	Adaptability to technological changes	62%
Recommended Steps for Teacher Education Programs	Provide hands-on training with AI tools (Google Classroom, ChatGPT, DepEd learning systems)	75%

Legend: Column 1 - Survey Question**:** Lists the specific questions asked to the respondents regarding their perceptions and experiences with AI in education. Column 2 - Most Frequent Response**:** Displays the most common or frequent response chosen by the respondents for each survey question. Column 3 - Percentage**:** Shows the percentage of respondents who selected the most frequent response for each question.

Based on the survey results in Table 2, most pre-service teachers (65%) were highly familiar with AI in education, and 60% believed AI would likely bring significant changes to teaching in the Philippines within the next decade. Lesson planning and curriculum development (72%) emerged as the primary area of AI impact, aligning with research on AI-driven instructional enhancements (Zawacki-Richter et al., 2019). Despite AI's advancements, 85% of respondents maintained that teachers remained essential, highlighting the irreplaceable role of human educators in fostering critical thinking and creativity (Luckin, 2018). AI's overall impact was perceived as "Somewhat Positive" by 70% of respondents, though 55% cited the lack of AI training as a major challenge, reinforcing the need for digital literacy among educators (Cabero-Almenara &

Palacios-Rodríguez, 2022). Meanwhile, 60% viewed AI's greatest benefit as automating administrative tasks to enhance teaching efficiency.

Although 68% had not received formal AI training, many engaged in self-directed learning through social media. Confidence in AI integration varied, with 58% feeling "Somewhat Confident," and 62% emphasizing adaptability as a key skill for educators. To bridge the gap, 75% recommended hands-on AI training through platforms like Google Classroom and DepEd learning systems. These findings underscored the need for AI-focused teacher training programs to enhance AI literacy and classroom adaptability (Holmes et al., 2022). Future research should explore how AI perceptions evolve as teachers gain direct classroom experience.

AI Perceptions and Concerns Among Non-Users and Untrained Pre-Service Teachers

The focus group discussions (FGDs) with non-users and untrained pre-service teachers revealed several important themes regarding their perceptions of Artificial Intelligence (AI). A significant theme identified was AI's Perceived Role and Potential**.** Informants associated AI with futuristic technologies, such as robots or self-driving cars, and recognized its potential to enhance everyday life. For instance, Informant 1 envisioned AI as machines capable of thinking and acting like humans, while Informant 5 linked it to sci-fi depictions, reinforcing the idea that AI is often perceived as an advanced, yet distant technology. Despite the excitement, Informants expressed uncertainty regarding AI's integration into daily life, with concerns about whether it would simplify or complicate tasks. This perception aligned with Zawacki-Richter et al. (2019), who noted that while AI promises efficiency, its potential to disrupt established routines remains a concern for many.

Concerns About AI emerged as another central theme. Several informants voiced worries about the ethical and practical implications of AI, particularly regarding privacy and job displacement. Informant 1 expressed concern about AI's potential to track personal information, while Informant 2 feared job loss due to AI's ability to automate tasks. These concerns reflected broader societal anxieties about AI's impact on employment and personal privacy, as discussed by Gunkel (2017), who highlighted the ethical challenges AI poses in areas such as surveillance and automation. The issue of AI bias was also mentioned, with Informant 5 worrying about unfair decisions made by AI systems. This concern echoed Luckin (2018), who emphasized the importance of addressing biases in AI tools to ensure fairness and equity.

Another key theme was AI Training and User Confidence, where informants acknowledged the lack of familiarity with AI tools. Informant 4 mentioned that while they were comfortable using basic AI, such as voice assistants, more complex systems would require training. This highlighted the knowledge gap and underscores the need for accessible training to boost user confidence, as suggested by Kromp and Greenhow (2020). Informants expressed willingness to explore AI tools if they were simple to use, with Informant 2 emphasized the need for clear instructions to ease the learning process.

AI's Role in Daily Life also emerged as a significant theme with informants discussed the potential for AI to simplify routine tasks such as scheduling, financial management, and data analysis. For instance, Informant 3 highlighted how AI could automate research tasks, saving time and improving efficiency. Informant 6 pointed out how AI could help with grocery shopping and meal planning, which suggests a potential to improve everyday tasks. These responses aligned with Luckin et al. (2016), who emphasized the utility of AI in streamlining daily operations, particularly in areas where automation can save time and reduce effort.

Lastly, AI Accessibility was identified as a barrier to its adoption. Informants suggested that user-friendly interfaces**,** tutorials, and real-world examples could make AI more accessible. Informant 6 proposed showcasing success stories to build trust in AI's practical applications. This theme reflects the findings of UNESCO (2021), which stressed the importance of inclusive design and training to ensure that AI tools are accessible to a wider audience.

In summary, the thematic analysis revealed a mix of enthusiasm and apprehension toward AI among non-users and untrained pre-service teachers. While there was an acknowledgment of AI's potential to enhance efficiency and simplify tasks, concerns about privacy, job displacement, and the need for accessible training remain prevalent. These insights highlighted the importance of providing clear guidance, addressing ethical

concerns, and ensuring that AI is made accessible to all, especially those without prior exposure to the technology.

AI Usage and Training Among Users and Trained Pre-Service Teachers

The thematic analysis of the responses gathered from users and trained pre-service teachers revealed several key themes regarding their experiences and perceptions of AI. A prominent theme that emerged was AI Integration and Efficiency. Informants reported significant benefits in efficiency and productivity across various sectors. For example, Informant 1 emphasized the time-saving advantages of AI-driven analytics platforms like Tableau and Google Analytics, while Informant 4 noted how AI-powered diagnostic tools, such as IBM Watson, improved patient care by providing faster and more accurate diagnoses. These insights aligned with the work of Brynjolfsson and McAfee (2014), who highlighted the potential of AI to optimize workflows and enhance decision-making processes across industries. Similarly, AI tools used in social media management, like Hootsuite and Grammarly, were found to streamline tasks such as content scheduling and writing quality, allowing professionals to focus on more creative and strategic activities.

Another significant theme was AI Training and Confidence, where responses reflected varying levels of comfort and competence with AI tools. While some informants, like Informant 4, expressed confidence in using basic AI tools such as voice assistants, others, like Informant 2, noted the learning curve associated with more complex tools, such as machine learning platforms. These findings underscore the importance of accessible and effective AI training, which is crucial to building confidence and ensuring users can fully utilize AI's potential. Informants stressed the need for beginner-friendly resources and structured training to facilitate AI adoption, a point echoed by Kromp and Greenhow (2020), who emphasized the importance of training programs to increase user confidence.

AI’s Future Potential emerged as another key theme, with informants identifying areas where AI's capabilities remain underutilized. For example, Informant 1 pointed to AI’s untapped potential in healthcare predictive diagnostics, while Informant 5 discussed the opportunities for AI in creative industries, particularly in content creation. These views align with the broader literature, which suggests that AI remains under-exploited in sectors like healthcare, education, and creative arts (Schmidt et al., 2020). Respondents recognized AI’s capacity to improve processes and outcomes, yet also noted that more research and development are needed to fully realize its potential.

Ethical Concerns regarding AI were consistently mentioned across responses with concerns about AI bias, privacy, and the potential for job displacement. Informant 3 expressed concern over AI's use in social media and advertising, noting its potential for manipulation, while Informant 2 highlighted the fear that AI might replace human jobs, an issue that has been widely discussed in the literature (Fostering AI Literacy, 2020). Informant 4 raised concerns about AI’s use in surveillance, stressing the need for clear ethical guidelines and policies, a point supported by Gunkel (2017), who discussed the ethical dilemmas surrounding AI technologies.

Finally, the theme of AI Accessibility and Usability emerged strongly, with informants suggesting that AI tools need to be more user-friendly to encourage broader adoption. Informants proposed that simple interfaces, clear tutorials, and real-life examples could make AI more accessible to those with little or no prior experience with the technology. Informant 6 suggested using success stories to demonstrate AI’s practical applications, helping to build trust and engagement with the technology. This echoed the findings of UNESCO (2021), which advocated for inclusive AI design that prioritizes usability for all users.

In summary, the thematic analysis revealed that while pre-service teachers who used AI tools recognize their benefits in improving efficiency and decision-making, challenges such as the need for adequate training, ethical concerns, and accessibility remain significant barriers. These insights were consistent with existing literature, which emphasized the importance of addressing these issues to ensure AI is integrated meaningfully and ethically into education and other sectors.

CONCLUSION

As AI continues to reshape education, how prepared are future teachers to embrace it?

While many recognized AI's potential, especially in lesson planning, most lacked formal training, making integration difficult despite their openness to its benefits. AI was seen as a valuable tool for automating tasks, allowing teachers to focus on student engagement, but adaptability and digital literacy were emphasized as essential skills. To better prepare future educators, teacher training programs should incorporate hands-on AI learning. As AI evolves, future research should assess its long-term impact on teaching. Ultimately, AI should complement, not replace, teachers—enhancing education while preserving the human connection.

AI Education Nomenclatures

Term/Concept	**Definition**
Pre-Service Teachers	Students currently undergoing teacher education programs who have not yet entered the teaching profession (Cabero-Almenara & Palacios-Rodríguez, 2022).
Artificial Intelligence (AI)	Technology that simulates human intelligence processes, including learning, reasoning, and self-correction, which is being integrated into educational settings to enhance teaching and learning experiences (Luckin et al., 2016).
AI Integration in Education	The process of incorporating AI tools and technologies into educational systems, including curriculum development, lesson planning, administrative tasks, and personalized learning (Zawacki-Richter et al., 2019).
Teacher Education Programs	Academic programs designed to prepare individuals to become professional teachers, covering pedagogical theories, instructional methods, and classroom management techniques (Darling-Hammond, 2006).
Digital Literacy	The ability to effectively use digital technologies and tools, including understanding and applying AI, which is essential for educators in the digital age (Ng, 2012).
Pedagogical Adaptability	The capacity of educators to adjust their teaching methods to integrate technological tools, such as AI, while maintaining educational quality (Ertmer & Ottenbreit-Leftwich, 2010).
AI Training	Formal or informal education that helps teachers develop the skills to use AI tools in their teaching practice (Kromp & Greenhow, 2020).
Survey	A research method used to gather data and insights from participants regarding their perceptions, experiences, and opinions about AI in education (Creswell, 2014).
Self-Directed Learning	Learning initiated and managed by the individual, often through resources such as social media, online courses, and informal platforms (Knowles, 1975).
Lesson Planning and Curriculum Development	Areas of education most likely impacted by AI, where AI could assist in organizing and structuring teaching content and materials (Tuomi, 2023).
Administrative Tasks	Routine school activities, such as grading, scheduling, and attendance, that can be automated by AI to save time for teachers and administrators (Luckin, 2018).
Classroom Adaptability	The ability of educators to integrate and apply new teaching methods, tools, and technologies, such as AI, into the classroom environment (Shapira et al.,

	2021).
Human Connection in Teaching	The essential interpersonal and emotional aspects of teaching, which AI aims to complement, not replace, in fostering meaningful student-teacher interactions (Gunkel, 2017).
AI Perception	The attitudes, beliefs, and expectations of pre-service teachers regarding the role and impact of AI in education (Singh & Singh, 2019).

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25. Zawacki-Richter, O., et al. (2019). Systematic review of research on artificial intelligence in education: Challenges and opportunities. Educational Research Review, 26, 26-45.
26. Appendix A.1: Responses from the Structured Survey Generated via Google Forms

Timestamp	1. What is	2. What is	If Others,	3. How fa	4. In your	5. Which a	6. Do you	7. How do	8. What di	9. What di	10. Have y	11. How c	12. What :	13. What :	Others
2025/03/	Fourth Yea	Secondary Education		Very famil	Very likely	Lesson pla	No, teach	Somewhat	Ethical co	Automatin	No, but I	Somewhat	Critical thi	Provide hi	None
2025/03/	Fourth Yea	Elementary Education		Expert lev	Likely	Lesson pla	No, teach	Neutral (N	Potential	Automatin	No, I have	Somewhat	Basic digit	Conduct v	none
2025/03/	Fourth Yea	Secondary Education		Very famil	Very likely	Lesson pla	No, but AI	Somewhat	Limited ac	Automatin	No, but I	Somewhat	Critical thi	Provide hi	none i can think of
2025/03/	Fourth Yea	Secondary Education		Very famil	Likely	Lesson pla	No, but AI	Somewhat	Ethical co	Increasing	Yes, but a	Somewhat	Adaptabili	Conduct v	None
2025/03/	Fourth Yea	Elementary Education		Very famil	Very likely	Lesson pla	No, teach	Somewhat	Lack of to	Enhancing	No, but I	Slightly co	Basic digit	Provide hi	I think that AI is a helpful tool for teachers. But I believe that there must be a proper trainings and seminars on how to use it.
2025/03/	Fourth Yea	Elementary Education		Very famil	Somewhat	Lesson pla	No, but AI	Somewhat	Limited ac	Providing	No, but I	Somewhat	Basic digit	Provide hi	None
2025/03/	Fourth Yea	Secondary Chemistry		Very famil	Very likely	Lesson pla	No, but AI	Very posit	Ethical co	Improving	Yes, exten	Very confi	Basic digit	Provide hi	Conduct workshops and seminars on AI in education
2025/03/	Fourth Yea	Elementary Education		Somewhat	Likely	Personaliz	Not sure.	Neutral (N	Potential	Increasing	No, I have	Not confic	Ethical awa	Provide hi	None so far
2025/03/	Fourth Yea	Elementary Education		Very famil	Very likely	Lesson pla	No, but AI	Neutral (N	Limited ac	Increasing	No, but I	Slightly co	Basic digit	Include AI	N
2025/03/	Fourth Yea	Elementary Education		Very famil	Very likely	Lesson pla	No, teach	Neutral (N	Lack of to	Automatin	No, but I	Somewhat	Adaptabili	Conduct v	Make a training for teachers to use AI effectively in class. To easily use it and can be beneficial in their daily teaching.
2025/03/	First Year	Secondary Education		Somewhat	Likely	Lesson pla	No, but AI	Very posit	Potential	Enhancing	No, but I	Very confi	Critical thi	Conduct v	None
2025/03/	Fourth Yea	Secondary Education		Very famil	Likely	Lesson pla	Not sure.	Neutral (N	Reduced t	Increasing	Yes, but a	Slightly co	Adaptabili	Encourage	N/A
2025/03/	First Year	Secondary Education		Very famil	Somewhat	Student as	No, but AI	Neutral (N	Limited ac	Automatin	Yes, but a	Very confi	Basic digit	Encourage	None
2025/03/	Fourth Yea	Elementary Education		Very famil	Likely	Teacher-ri	Not sure.	Neutral (N	Limited ac	Increasing	No, I have	Slightly co	Ability to :	Include AI	None
2025/03/	Fourth Yea	Elementary Education		Slightly fa	Likely	Lesson pla	No, teach	Somewhat	Reduced t	Improving	No, but I	Somewhat	Adaptabili	Conduct v	None
2025/03/	Fourth Yea	Elementary Education		Very famil	Somewhat	Lesson pla	No, teach	Neutral (N	Lack of to	Automatin	No, but I	Slightly co	Adaptabili	Conduct v	As a Teacher you must be aware of AI
2025/03/	First Year	Elementary Education		Somewhat	Likely	Lesson pla	No, teach	Somewhat	Lack of to	Increasing	No, but I	Somewhat	Adaptabili	Provide hi	Conduct trainings
2025/03/	Fourth Yea	Elementary Education		Very famil	Not likely	Lesson pla	Yes, AI will	Very posit	Limited ac	Automatin	Yes, exten	Very confi	Basic digit	Include AI	Very satisfactory excellent
2025/03/	Fourth Yea	Elementary Education		Expert lev	Very likely	Student as	Yes, AI will	Neutral (N	Limited ac	Increasing	No, but I	Somewhat	Ability to :	Provide hi	N/A
2025/03/	First Year	Secondary Education		Somewhat	Somewhat	Personaliz	No, teach	Neutral (N	Ethical co	Increasing	No, but I	Somewhat	Ability to :	Conduct v	Good
2025/03/	Fourth Yea	Elementary Education		Not famili	Likely	Lesson pla	Yes, AI will	Very nega	Limited ac	Improving	Yes, exten	Slightly co	Ability to :	Provide hi	It is mostly important to us everyday
2025/03/	Fourth Yea	Elementar	General ac	Slightly fa	Likely	Lesson pla	No, but AI	Neutral (N	Lack of to	Providing	No, but I	Slightly co	Adaptabili	Provide hi	Workshop's
2025/03/	Fourth Yea	Technology and Livelih		Very famil	Likely	Student as	No, teach	Somewhat	Limited ac	Automatin	Yes, but a	Somewhat	Adaptabili	Include AI	make AI as weapon or tool not become our life
2025/03/	Fourth Yea	Elementary Education		Slightly fa	Likely	Lesson pla	No, teach	Somewhat	Lack of to	Automatin	No, but I	Slightly co	Ability to :	Provide hi	None
2025/03/	Fourth Yea	Elementary Education		Expert lev	Very likely	Personaliz	No, teach	Somewhat	Lack of to	Increasing	Yes, but a	Somewhat	Basic digit	Provide hi	Other teacher and student can be lazy because of AI
2025/03/	Fourth Yea	Elementary Education		Expert lev	Not likely	Personaliz	No, teach	Somewhat	Lack of to	Increasing	Yes, but a	Somewhat	Basic digit	Provide hi	Other teacher and student can be lazy because of AI
2025/03/	Fourth Yea	Elementary Education		Very famil	Likely	Teacher-ri	No, but AI	Somewhat	Lack of to	Improving	Yes, but a	Somewhat	Adaptabili	Conduct v	None
2025/03/	Fourth Yea	Others	Bachelor c	Somewhat	Very likely	Lesson pla	No, but AI	Neutral (N	Reduced t	Enhancing	No, I have	Slightly co	Ability to :	Include AI	None
2025/03/	Fourth Yea	Elementary Education		Very famil	Likely	Lesson pla	No, teach	Very posit	Limited ac	Improving	No, I have	Slightly co	Ability to :	Conduct v	Dep'Ed should conduct seminar workshops and other training to enhance the teachers in the teaching and learning process
2025/03/	First Year	Elementary Education		Very famil	Likely	Lesson pla	No, teach	Somewhat	Reduced t	Increasing	No, but I	Very confi	Adaptabili	Provide hi	None
2025/03/	Fourth Yea	Elementary Education		Very famil	Likely	Lesson pla	No, teach	Somewhat	Limited ac	Enhancing	No, but I	Somewhat	Ability to :	Provide hi	A AWARENESS IS IMPORTANT AND ALSO PROPER ETHICS
2025/03/	Fourth Yea	Elementary Education		Very famil	Very likely	Lesson pla	No, teach	Somewhat	Ethical co	Increasing	No, but I	Slightly co	Adaptabili	Conduct v	N/A
2025/03/	Fourth Yea	Elementary Education		Expert lev	Very likely	Lesson pla	Yes, AI will	Very posit	Lack of to	Enhancing	Yes, exten	Very confi	Ability to :	Provide hi	Provide hands on training
2025/03/	Fourth Yea	Elementary Education		Expert lev	Somewhat	Lesson pla	No, teach	Neutral (N	Lack of to	Enhancing	Yes, but a	Somewhat	Ability to :	Conduct v	Provide hands on training
2025/03/	Fourth Yea	Elementary Education		Very famil	Likely	Lesson pla	No, but AI	Somewhat	Ethical co	Enhancing	Yes, exten	Slightly co	Basic digit	Conduct v	The teacher will use AI as a tool for making their work easier for them to do.
2025/03/	Fourth Yea	Early Childhood Educ		Somewhat	Likely	Lesson pla	No, teach	Somewhat	Lack of to	Increasing	Yes, but a	Somewhat	Adaptabili	Provide hi	None
2025/03/	Fourth Yea	Secondary Education		Somewhat	Likely	Lesson pla	No, teach	Neutral (N	Limited ac	Enhancing	No, but I	Slightly co	Ability to :	Conduct v	N/A
2025/03/	Third Year	Secondary Education		Very famil	Somewhat	Lesson pla	No, teach	Very nega	Potential	Increasing	No, but I	Slightly co	Basic digit	Conduct v	Teachers will always be essential despite AI advancements.
2025/03/	Fourth Yea	Elementary Education		Somewhat	Somewhat	Personaliz	No, teach	Neutral (N	Limited ac	Enhancing	No, but I	Slightly co	Basic digit	Include AI	AI can help teachers with regards to other things.
2025/03/	Fourth Yea	Elementary Education		Very famil	Very likely	Lesson pla	No, but AI	Somewhat	Ethical co	Increasing	No, but I	Very confi	Ability to :	Provide hi	AI is very beneficial if it is use in most effective way to improve and provide a quality education.
2025/03/	Fourth Yea	Secondary Education		Very famil	Very likely	Lesson pla	No, teach	Very posit	Lack of to	Automatin	No, but I	Somewhat	Adaptabili	Encourage	None
2025/03/	Fourth Yea	Elementary Education		Somewhat	Somewhat	Lesson pla	No, but AI	Neutral (N	Potential	Improving	No, but I	Slightly co	Critical thi	Provide hi	AI in education can help to both teacher and student in all task and activities in school. It can minimized the burden tasks of teacher but the negative effect of AI is give harmful to students as well as
2025/03/	Fourth Yea	Secondary Education		Very famil	Very likely	Lesson pla	No, but AI	Somewhat	Limited ac	Increasing	Yes, but a	Somewhat	Ability to :	Include AI	Prepare gadgets and high technologies. And of course improve the signawk to access internet most especially in public schools anywhere in the Philippines.
2025/03/	Fourth Yea	Technology and Livelih		Very famil	Somewhat	Lesson pla	No, teach	Neutral (N	Potential	Automatin	No, but I	Slightly co	Adaptabili	Provide hi	AI also can help to make a Dep'Ed's learning update curriculum and advanced features topic.
2025/03/	Fourth Yea	Elementary Education		Very famil	Somewhat	Lesson pla	No, teach	Very posit	Ethical co	Providing	No, but I	Somewhat	Critical thi	Conduct v	None
2025/03/	Fourth Yea	Elementary Education		Slightly fa	Likely	Lesson pla	Not sure.	Very nega	Limited ac	Automatin	Yes, exten	Not confic	Basic digit	Include AI	.
2025/03/	Fourth Yea	Elementary Education		Very famil	Likely	Lesson pla	No, teach	Neutral (N	Potential	Enhancing	No, I have	Slightly co	Basic digit	Conduct v	N/a
2025/03/	Fourth Yea	Early Childhood Educ		Somewhat	Likely	Lesson pla	No, but AI	Neutral (N	Reduced t	Increasing	No, I have	Slightly co	Adaptabili	Include AI	None
2025/03/	Fourth Yea	Elementary Education		Very famil	Somewhat	Student as	No, teach	Neutral (N	Lack of to	Providing	No, but I	Somewhat	Adaptabili	Conduct v	none
2025/03/	Fourth Yea	Early Childhood Educ		Very famil	Very likely	Teacher-ri	No, teach	Neutral (N	Potential	Increasing	No, but I	Very confi	Ability to :	Provide hi	None
2025/03/	Fourth Yea	Secondary Education		Very famil	Likely	Lesson pla	No, teach	Somewhat	Potential	Providing	Yes, exten	Somewhat	Ability to :	Conduct v	None
2025/03/	Fourth Yea	Elementary Education		Very famil	Likely	Lesson pla	No, teach	Somewhat	Limited ac	Enhancing	No, but I	Somewhat	Ability to :	Provide hi	None
2025/03/	Fourth Yea	Early Childhood Educ		Slightly fa	Likely	Lesson pla	No, teach	Somewhat	Limited ac	Providing	No, but I	Slightly co	Basic digit	Include AI	.
2025/03/	Fourth Yea	Elementary Education		Very famil	Likely	Lesson pla	No, teach	Neutral (N	Lack of to	Increasing	No, but I	Slightly co	Adaptabili	Provide hi	To use AI appropriately and accordingly
2025/03/	Fourth Yea	Elementary Education		Expert lev	Very likely	Student as	No, teach	Somewhat	Lack of to	Enhancing	No, but I	Somewhat	Basic digit	Conduct v	.
2025/03/	Third Year	Elementary Education		Slightly fa	Somewhat	Classroom	Not sure.	Neutral (N	Potential	Automatin	No, I have	Slightly co	Critical thi	Include AI	None
2025/03/	Fourth Yea	Elementary Education		Somewhat	Likely	Lesson pla	No, but AI	Neutral (N	Lack of to	Improving	No, but I	Slightly co	Basic digit	Include AI	None
2025/03/	First Year	Elementary Education		Slightly fa	Likely	Lesson pla	No, but AI	Somewhat	Lack of to	Improving	No, but I	Somewhat	Adaptabili	Provide hi	None
2025/03/	Fourth Yea	Elementary Education		Very famil	Very likely	Student as	No, teach	Neutral (N	Ethical co	Automatin	No, but I	Slightly co	Critical thi	Provide hi	N/A
2025/03/	First Year	Others	Filipino	Slightly fa	Likely	Lesson pla	Yes, AI will	Very posit	Limited ac	Improving	Yes, exten	Slightly co	Basic digit	Conduct v	None
2025/03/	Fourth Yea	Elementary Education		Very famil	Very likely	Lesson pla	No, teach	Somewhat	Ethical co	Automatin	No, but I	Somewhat	Basic digit	Provide hi	N/A
2025/03/	First Year	Secondary Education		Very famil	Likely	Lesson pla	No, teach	Neutral (N	Limited ac	Automatin	No, I have	Slightly co	Basic digit	Include AI	Encourage more research on AI's impact on Philippine education (e.g., AI and K-12 learning outcomes)
2025/03/	Second Ye	Elementary Education		Very famil	Likely	Lesson pla	No, teach	Somewhat	Limited ac	Increasing	No, but I	Slightly co	Critical thi	Encourage	N/A
2025/03/	Fourth Yea	Elementary Education		Slightly fa	Somewhat	Classroom	Yes, AI will	Somewhat	Lack of to	Improving	No, but I	Slightly co	Critical thi	Provide hi	The tis very big help to teacher
2025/03/	Fourth Yea	Elementary Education		Very famil	Not likely	Classroom	No, teach	Neutral (N	Limited ac	Automatin	No, but I	Slightly co	Ethical awa	Conduct v	Having a proper workshop can help every teacher to improve classes effectively.
2025/03/	Fourth Yea	Elementary Education		Expert lev	Likely	Student as	Yes, AI will	Neutral (N	Potential	Enhancing	Yes, but a	Very confi	Adaptabili	Provide hi	Important to learn AI
2025/03/	Fourth Yea	Secondary Education		Very famil	Very likely	Lesson pla	No, teach	Neutral (N	Potential	Increasing	No, but I	Somewhat	Ability to :	Conduct v	None so far
2025/03/	First Year	Elementary Education		Slightly fa	Somewhat	Lesson pla	No, teach	Neutral (N	Lack of to	Providing	Yes, but a	Slightly co	Adaptabili	Provide hi	more learnings about AI in Education
2025/03/	Fourth Yea	Secondary Education		Somewhat	Likely	Lesson pla	No, teach	Neutral (N	Lack of to	Automatin	Yes, exten	Slightly co	Basic digit	Include AI	Thank you
2025/03/	Fourth Yea	Elementary Education		Somewhat	Somewhat	Personaliz	No, teach	Somewhat	Limited ac	Enhancing	Yes, but a	Not confic	Adaptabili	Conduct v	None
2025/03/	Fourth Yea	Elementary Education		Somewhat	Somewhat	Classroom	Yes, AI will	Somewhat	Limited ac	Enhancing	Yes, exten	Somewhat	Critical thi	Provide hi	Bakit mayguni

Timestam	1. What is	2. What is	If Others,	3. How fa	4. In your	5. Which a	6. Do you	7. How do	8. What di	9. What di	10. Have y	11. How o	12. What s	13. What s	Others,
2025/03/1	Fourth Ye	Secondary	Education	Very famil	Very likely	Lesson pla	No, teache	Somewha	Ethical cor	Automatir	No, but I h	Somewha	Critical thi	Provide ha	None
2025/03/1	Fourth Ye	Elementary	Educatio	Expert lev	Likely	Lesson pla	No, teache	Neutral â€	Potential j	Automatir	No, I have	Somewha	Basic digit	Conduct w	none
2025/03/1	Fourth Ye	Secondary	Education	Very famil	Very likely	Lesson pla	No, but AI	Somewha	Limited ac	Automatir	No, but I h	Somewha	Critical thi	Provide ha	none i can think of
2025/03/1	Fourth Ye	Secondary	Education	Very famil	Likely	Lesson pla	No, but AI	Somewha	Ethical cor	Increasing	Yes, but o	Somewha	Adaptabili	Conduct w	None
2025/03/1	Fourth Ye	Elementary	Educatio	Very famil	Very likely	Lesson pla	No, teache	Somewha	Lack of tea	Enhancing	No, but I h	Slightly co	Basic digit	Provide ha	I think that AI in a helpful tool for teachers. But I believe that there must be a proper trainings and semina
2025/03/1	Fourth Ye	Elementary	Educatio	Very famil	Somewha	Lesson pla	No, but AI	Somewha	Limited ac	Providing	No, but I h	Somewha	Basic digit	Provide ha	None
2025/03/1	Fourth Ye	Secondary	Chemistry	Very famil	Very likely	Lesson pla	No, but AI	Very posit	Ethical cor	Improving	Yes, exten	Very confi	Basic digit	Provide ha	Conduct workshops and seminars on AI in education
2025/03/1	Fourth Ye	Elementary	Educatio	Somewha	Likely	Personaliz	Not sure.	Neutral â€	Potential j	Increasing	No, I have	Not confic	Ethical aw	Provide ha	None so far
2025/03/1	Fourth Ye	Elementary	Educatio	Very famil	Very likely	Lesson pla	No, but AI	Neutral â€	Limited ac	Increasing	No, but I h	Slightly co	Basic digit	Include AI	N
2025/03/1	Fourth Ye	Elementary	Educatio	Very famil	Very likely	Lesson pla	No, teache	Neutral â€	Lack of tea	Automatir	No, but I h	Somewha	Adaptabili	Conduct w	Make a training for teachers to use AI effectively in class. To easily use it and can be beneficial in their dail
2025/03/1	First Year	Secondary	Education	Somewha	Likely	Lesson pla	No, but AI	Very posit	Potential j	Enhancing	No, but I h	Very confi	Critical thi	Conduct w	None
2025/03/1	Fourth Ye	Secondary	Education	Very famil	Likely	Lesson pla	Not sure.	Neutral â€	Reduced t	Increasing	Yes, but o	Slightly co	Adaptabili	Encourage	N/A
2025/03/1	First Year	Secondary	Education	Very famil	Somewha	Student as	No, but AI	Neutral â€	Limited ac	Automatir	Yes, but o	Very confi	Basic digit	Encourage	None
2025/03/1	Fourth Ye	Elementary	Educatio	Very famil	Likely	Teacher-s	Not sure.	Neutral â€	Limited ac	Increasing	No, I have	Slightly co	Ability to u	Include AI	None
2025/03/1	Fourth Ye	Elementary	Educatio	Slightly far	Likely	Lesson pla	No, teache	Somewha	Reduced t	Improving	No, but I h	Somewha	Adaptabili	Conduct w	None
2025/03/1	Fourth Ye	Elementary	Educatio	Very famil	Somewha	Lesson pla	No, teache	Neutral â€	Lack of tea	Automatir	No, but I h	Slightly co	Adaptabili	Conduct w	As a Teacher you must be aware of AI
2025/03/1	First Year	Elementary	Educatio	Somewha	Likely	Lesson pla	No, teache	Somewha	Lack of tea	Increasing	No, but I h	Somewha	Adaptabili	Provide ha	Conduct trainings
2025/03/1	Fourth Ye	Elementary	Educatio	Very famil	Not likely	Lesson pla	Yes, AI will	Very posit	Limited ac	Automatir	Yes, exten	Very confi	Basic digit	Include AI	Very satisfactory excellent
2025/03/1	Fourth Ye	Elementary	Educatio	Expert lev	Very likely	Student as	Yes, AI will	Neutral â€	Limited ac	Increasing	No, but I h	Somewha	Ability to u	Provide ha	N/A
2025/03/1	First Year	Secondary	Education	Somewha	Somewha	Personaliz	No, teache	Neutral â€	Ethical cor	Increasing	No, but I h	Somewha	Ability to u	Conduct w	Good
2025/03/1	Fourth Ye	Elementary	Educatio	Not famili	Likely	Lesson pla	Yes, AI will	Very nega	Limited ac	Improving	Yes, exten	Slightly co	Ability to u	Provide ha	Ic is musty important to us every day
2025/03/1	Fourth Ye	Elementar	General sc	Slightly far	Likely	Lesson pla	No, but AI	Neutral â€	Lack of tea	Providing	No, but I h	Slightly co	Adaptabili	Provide ha	Workshop's
2025/03/1	Fourth Ye	Technology and Livel	Very famil	Likely	Student as	No, teache	Somewha	Limited ac	Automatir	Yes, but o	Somewha	Adaptabili	Include AI	make AI as weapon or tool not become our life	
2025/03/1	Fourth Ye	Elementary	Educatio	Slightly far	Likely	Lesson pla	No, teache	Somewha	Lack of tea	Automatir	No, but I h	Slightly co	Ability to u	Provide ha	None
2025/03/1	Fourth Ye	Elementary	Educatio	Expert lev	Very likely	Personaliz	No, teache	Somewha	Lack of tea	Increasing	Yes, but o	Somewha	Basic digit	Provide ha	Other teacher and student can be lazy because of AI
2025/03/1	Fourth Ye	Elementary	Educatio	Expert lev	Not likely	Personaliz	No, teache	Somewha	Lack of tea	Increasing	Yes, but o	Somewha	Basic digit	Provide ha	Other teacher and student can be lazy because of AI
2025/03/1	Fourth Ye	Elementary	Educatio	Very famil	Likely	Teacher-s	No, but AI	Somewha	Lack of tea	Improving	Yes, but o	Somewha	Adaptabili	Conduct w	None
2025/03/1	Fourth Ye	Others __	Bachelor c	Somewha	Very likely	Lesson pla	No, but AI	Neutral â€	Reduced t	Enhancing	No, I have	Slightly co	Ability to u	Include AI	None
2025/03/1	Fourth Ye	Elementary	Educatio	Very famil	Likely	Lesson pla	No, teache	Very posit	Limited ac	Improving	No, I have	Slightly co	Ability to u	Conduct w	DepEd should conduct seminar workshops and other training to enhance the teachers in the teaching and
2025/03/1	First Year	Elementary	Educatio	Very famil	Likely	Lesson pla	No, teache	Somewha	Reduced t	Increasing	No, but I h	Very confi	Adaptabili	Provide ha	None
2025/03/1	Fourth Ye	Elementary	Educatio	Very famil	Likely	Lesson pla	No, teache	Somewha	Limited ac	Enhancing	No, but I h	Somewha	Ability to u	Provide ha	AI AWARENESS IS IMPORTANT AND ALSO PROPER ETHICS
2025/03/1	Fourth Ye	Elementary	Educatio	Very famil	Very likely	Lesson pla	No, teache	Somewha	Ethical cor	Increasing	No, but I h	Slightly co	Adaptabili	Conduct w	N/A
2025/03/1	Fourth Ye	Elementary	Educatio	Expert lev	Very likely	Lesson pla	Yes, AI will	Very posit	Lack of tea	Enhancing	Yes, exten	Very confi	Ability to u	Provide ha	Provide hands on training
2025/03/1	Fourth Ye	Elementary	Educatio	Expert lev	Somewha	Lesson pla	No, teache	Neutral â€	Lack of tea	Enhancing	Yes, but o	Somewha	Ability to u	Conduct w	Provide hands on training
2025/03/1	Fourth Ye	Elementary	Educatio	Very famil	Likely	Lesson pla	No, but AI	Somewha	Ethical cor	Enhancing	Yes, exten	Slightly co	Basic digit	Conduct w	The teacher will use AI as a tool for making their work easier for them to do.
2025/03/1	Fourth Ye	Early Childhood	Educ	Somewha	Likely	Lesson pla	No, teache	Somewha	Lack of tea	Increasing	Yes, but o	Somewha	Adaptabili	Provide ha	None
2025/03/1	Fourth Ye	Secondary	Education	Somewha	Likely	Lesson pla	No, teache	Neutral â€	Limited ac	Enhancing	No, but I h	Slightly co	Ability to u	Conduct w	N/A
2025/03/1	Third Year	Secondary	Education	Very famil	Somewha	Lesson pla	No, teache	Very nega	Potential j	Increasing	No, but I h	Slightly co	Basic digit	Conduct w	Teachers will always be essential despite AI advancements.
2025/03/1	Fourth Ye	Elementary	Educatio	Somewha	Somewha	Personaliz	No, teache	Neutral â€	Limited ac	Enhancing	No, but I h	Slightly co	Basic digit	Include AI	AI can help teachers with regards to other things.
2025/03/1	Fourth Ye	Elementary	Educatio	Very famil	Very likely	Lesson pla	No, but AI	Somewha	Ethical cor	Increasing	No, but I h	Very confi	Ability to u	Provide ha	AI is very beneficial if it is use in most effective way to improve and provide a quality education.
2025/03/1	Fourth Ye	Secondary	Education	Very famil	Very likely	Lesson pla	No, teache	Very posit	Lack of tea	Automatir	No, but I h	Somewha	Adaptabili	Encourage	None
2025/03/1	Fourth Ye	Elementary	Educatio	Somewha	Somewha	Lesson pla	No, but AI	Neutral â€	Potential j	Improving	No, but I h	Slightly co	Critical thi	Provide ha	AI in education can help to both teacher and student in all task and activities in school. It can minimized th
2025/03/1	Fourth Ye	Secondary	Education	Very famil	Very likely	Lesson pla	No, but AI	Somewha	Limited ac	Increasing	Yes, but o	Somewha	Ability to u	Include AI	Prepare gadgets and high technologies. And of course improve the signals to access internet most especia
2025/03/1	Fourth Ye	Technology and Livel	Very famil	Somewha	Likely	Lesson pla	No, teache	Neutral â€	Potential j	Automatir	No, but I h	Slightly co	Adaptabili	Provide ha	AI also can help to make a DepEd's learning update curriculum and advanced features topic.
2025/03/1	Fourth Ye	Elementary	Educatio	Very famil	Somewha	Lesson pla	No, teache	Very posit	Ethical cor	Providing	No, but I h	Somewha	Critical thi	Conduct w	None
2025/03/1	Fourth Ye	Elementary	Educatio	Slightly far	Likely	Lesson pla	Not sure.	Very nega	Limited ac	Automatir	Yes, exten	Not confic	Basic digit	Include AI	.
2025/03/1	Fourth Ye	Elementary	Educatio	Very famil	Likely	Lesson pla	No, teache	Neutral â€	Potential j	Enhancing	No, I have	Slightly co	Basic digit	Conduct w	N/a
2025/03/1	Fourth Ye	Early Childhood	Educ	Somewha	Likely	Lesson pla	No, but AI	Neutral â€	Reduced t	Increasing	No, I have	Slightly co	Adaptabili	Include AI	None
2025/03/1	Fourth Ye	Elementary	Educatio	Very famil	Somewha	Student as	No, teache	Neutral â€	Lack of tea	Providing	No, but I h	Somewha	Adaptabili	Conduct w	none
2025/03/1	Fourth Ye	Early Childhood	Educ	Very famil	Very likely	Teacher-s	No, teache	Neutral â€	Potential j	Increasing	No, but I h	Very confi	Ability to u	Provide ha	None
2025/03/1	Fourth Ye	Secondary	Education	Very famil	Likely	Lesson pla	No, teache	Somewha	Potential j	Providing	Yes, exten	Somewha	Ability to u	Conduct w	None
2025/03/1	Fourth Ye	Elementary	Educatio	Very famil	Likely	Lesson pla	No, teache	Somewha	Limited ac	Enhancing	No, but I h	Somewha	Ability to u	Provide ha	None
2025/03/1	Fourth Ye	Early Childhood	Educ	Slightly far	Likely	Lesson pla	No, teache	Somewha	Limited ac	Providing	No, but I h	Slightly co	Basic digit	Include AI	.
2025/03/1	Fourth Ye	Elementary	Educatio	Very famil	Likely	Lesson pla	No, teache	Neutral â€	Lack of tea	Increasing	No, but I h	Slightly co	Adaptabili	Provide ha	To use AI appropriately and accordingly.
2025/03/1	Fourth Ye	Elementary	Educatio	Expert lev	Very likely	Student as	No, teache	Somewha	Lack of tea	Enhancing	No, but I h	Somewha	Basic digit	Conduct w	.
2025/03/1	Third Year	Elementary	Educatio	Slightly far	Somewha	Classroom	Not sure.	Neutral â€	Potential j	Automatir	No, I have	Slightly co	Critical thi	Include AI	None
2025/03/1	Fourth Ye	Elementary	Educatio	Somewha	Likely	Lesson pla	No, but AI	Neutral â€	Lack of tea	Improving	No, but I h	Slightly co	Basic digit	Include AI	None
2025/03/1	First Year	Elementary	Educatio	Slightly far	Likely	Lesson pla	No, but AI	Somewha	Lack of tea	Improving	No, but I h	Somewha	Adaptabili	Provide ha	None
2025/03/1	Fourth Ye	Elementary	Educatio	Very famil	Very likely	Student as	No, teache	Neutral â€	Ethical cor	Automatir	No, but I h	Slightly co	Critical thi	Provide ha	N/A
2025/03/1	First Year	Others __	Filipino	Slightly far	Likely	Lesson pla	Yes, AI will	Very posit	Limited ac	Improving	Yes, exten	Slightly co	Basic digit	Conduct w	None
2025/03/1	Fourth Ye	Elementary	Educatio	Very famil	Very likely	Lesson pla	No, teache	Somewha	Ethical cor	Automatir	No, but I h	Somewha	Basic digit	Provide ha	N/A
2025/03/1	First Year	Secondary	Education	Very famil	Likely	Lesson pla	No, teache	Neutral â€	Limited ac	Automatir	No, I have	Slightly co	Basic digit	Include AI	Encourage research on AIâ€™s impact on Philippine education (e.g., AI and K-12 learning outcomes)
2025/03/1	Second Ye	Elementary	Educatio	Very famil	Likely	Lesson pla	No, teache	Somewha	Limited ac	Increasing	No, but I h	Slightly co	Critical thi	Encourage	N/A
2025/03/1	Fourth Ye	Elementary	Educatio	Slightly far	Somewha	Classroom	Yes, AI will	Somewha	Lack of tea	Improving	No, but I h	Slightly co	Critical thi	Provide ha	That is very beg help to teacher
2025/03/1	Fourth Ye	Elementary	Educatio	Very famil	Not likely	Classroom	No, teache	Neutral â€	Limited ac	Automatir	No, but I h	Slightly co	Ethical aw	Conduct w	Having a proper workshop can help every teacher to improve classes effectively.
2025/03/1	Fourth Ye	Elementary	Educatio	Expert lev	Likely	Student as	Yes, AI will	Neutral â€	Potential j	Enhancing	Yes, but o	Very confi	Adaptabili	Provide ha	Important to learn AI
2025/03/1	Fourth Ye	Secondary	Education	Very famil	Very likely	Lesson pla	No, teache	Neutral â€	Potential j	Increasing	No, but I h	Somewha	Ability to u	Conduct w	None so far
2025/03/1	First Year	Elementary	Educatio	Slightly far	Somewha	Lesson pla	No, teache	Neutral â€	Lack of tea	Providing	Yes, but o	Slightly co	Adaptabili	Provide ha	more learnings about AI in Education
2025/03/1	Fourth Ye	Secondary	Education	Somewha	Likely	Lesson pla	No, teache	Neutral â€	Lack of tea	Automatir	Yes, exten	Slightly co	Basic digit	Include AI	Thank you
2025/03/2	Fourth Ye	Elementary	Educatio	Somewha	Somewha	Personaliz	No, teache	Somewha	Limited ac	Enhancing	Yes, but o	Not confic	Adaptabili	Conduct w	None
2025/03/2	Fourth Ye	Elementary	Educatio	Somewha	Somewha	Classroom	Yes, AI will	Somewha	Limited ac	Enhancing	Yes, exten	Somewha	Critical thi	Provide ha	Bakit may gani

Appendix A.2 Responses Gathered from Non-Users and Untrained Pre – Service Teachers in AI

Questions	**Informant 1**	**Informant 2**	**Informant 3**	**Informant 4**	**Informant 5**	**Informant 6**
What comes to mind when you hear the term 'Artificial Intelligence'?	I think of robots or machines that can think and act like humans, maybe even smarter.	It makes me think of futuristic technology, like self-driving cars or devices that understand what we say.	I imagine machines that can learn from their environment and get better over time.	To me, it sounds like technology that replaces human work, doing things faster and more efficiently.	AI feels like something from sci-fi movies, like robots doing tasks we usually do.	I think of smart assistants like Siri or Alexa that help answer questions or control devices.
Do you think AI is something that will affect your daily life in the future? Why or why not?	Yes, I think it will, because technology is always advancing, and AI is already in many things, like phones and cars.	I'm not sure, but I believe it could change how we do basic tasks, like shopping or working from home.	I think AI will affect my life in the future, but I don't know if it will be in ways I can easily understand or control.	Yes, it seems like AI will become more common in everyday tasks, but I wonder if it will make things more complicated.	Maybe, if it's used to help improve things like health care or managing my schedule, it might affect me.	I think AI will be more integrated into our lives, like voice assistants and other smart devices. It could make things easier.
Have you heard about AI being used in any industries or sectors? If so, which ones?	I've heard that AI is used in healthcare, like for diagnosing illnesses or predicting patient needs.	Yes, AI is used in finance for managing investments and detecting fraud.	I've heard AI is used in retail for customer service, like in chatbots or personalized recommendations.	I know AI is being used in cars for self-driving technology.	AI is also being used in entertainment, like streaming services recommending movies and shows based on what we watch.	I think AI is in agriculture too, helping with crop monitoring and pest control.
What do you think are the potential benefits or challenges of using AI in everyday life?	The benefit could be making tasks faster and more efficient, but the challenge might be relying too much on it.	AI can help save time by automating things like managing finances, but it might also make us too dependent on technology.	A benefit could be improved healthcare, but the challenge might be privacy and data security concerns.	AI could make everyday life more convenient, but there's a risk of job loss if machines replace human workers.	AI could improve education by personalizing learning, but I'm concerned about the fairness of AI systems.	It could be great for managing daily tasks, but I worry about the control AI might have over personal decisions.
What are your biggest concerns about	I'm worried about privacy and	My biggest concern is that AI could take	I'm concerned that AI might be used to	I fear that AI could make mistakes, and	I'm worried about biases in AI systems,	I think AI might make us too

AI?	how AI might track everything I do.	over jobs, leaving many people without work.	manipulate or control people, especially through social media or advertising.	those mistakes might have serious consequences.	like making unfair decisions based on data.	dependent on technology, losing the ability to think and solve problems on our own.
Do you feel confident in understanding or using technologies that involve AI? Why or why not?	Not really. I understand the basics, but I wouldn't know how to use advanced AI tools.	I'm not confident at all because I haven't had much exposure to AI in my daily life.	I understand the concept of AI, but I'm not sure how it works or how to use it in real-life situations.	I feel confident using basic AI, like voice assistants, but I would need training for more complex systems.	I'm familiar with some AI tools, but I wouldn't say I fully understand how they work.	I don't feel confident at all because I haven't been taught about AI or how to apply it.
If AI could help you in your work or personal life, what kind of tasks would you want it to assist with?	I'd like AI to help with scheduling and organizing my day-to-day tasks.	It would be great if AI could help me manage my finances and investments more efficiently.	AI could help me with data analysis and research, saving time on repetitive tasks.	It could help me keep track of personal goals and remind me about deadlines.	I would want AI to assist with creating educational content and lesson planning for my work.	I'd appreciate AI helping with routine tasks, like grocery shopping and planning meals.
Would you be willing to try an AI-based tool if it was simple to use? What factors would influence your decision?	Yes, if it was easy to use and would save me time or effort, I'd try it.	I'd try it if it didn't require a lot of technical knowledge and had clear instructions.	I'd consider it if I felt it was safe and secure, especially with my personal data.	Yes, but I would need to be sure that it's reliable and helpful for my specific needs.	I'd be willing to try it if it came with support or tutorials for beginners.	It depends on whether I believe it will actually improve my daily life or work.
How do you think AI could improve or change your current experiences with technology?	AI could make technology more personalized and efficient, helping me save time.	It could help me make smarter decisions, like recommending products or services based on my preferences.	AI could improve how I interact with devices, making them easier to use and more intuitive.	It could help me with learning and development by providing personalized educational experiences.	AI could improve communication and streamline processes in my daily life, making tasks simpler.	It could help me manage tasks better by automating things I often forget or overlook.
What do you think would make AI more	Simple, user-friendly	There should be beginner-friendly	Offering more hands-on workshops or	Making AI tools visually intuitive and	Providing examples of how AI can be	It would be helpful to see more

accessible or understandable for people who are not trained in it?	interfaces and easy-to-follow guides would make AI more accessible.	tutorials and clear explanations about how AI works.	demonstrations could help people understand AI better.	less technical would make it easier for beginners.	used in everyday life would make it more relatable.	success stories and practical applications of AI in daily tasks.

Appendix A.3 Responses Gathered from Users and Trained Pre – Service Teachers in AI

Question	**Informant 1**	**Informant 2**	**Informant 3**	**Informant 4**	**Informant 5**	**Informant 6**
How did you first get introduced to AI, and what motivated you to start using it?	Introduced via job as data analyst. Motivation to make workflow faster and more accurate.	Learned through an online course, motivated by automation needs in industry.	Introduced in university using machine learning models. Motivated by tech innovation.	Introduced to AI through healthcare work. Motivated by AI's potential to improve diagnostics.	Introduced to AI in social media marketing, motivated by AI's targeting ability.	Introduced to AI in professional development workshop, motivated by efficiency promises.
What are the most common AI tools or technologies you use, and how have they benefited your work or daily life?	Uses AI-driven analytics platforms like Tableau and Google Analytics for data visualization.	Uses AI-powered chatbots for customer service, reducing workload.	Uses TensorFlow and scikit-learn for machine learning projects, automating training.	Uses IBM Watson for AI-powered diagnostics, improving patient care and accuracy.	Uses Hootsuite's auto-scheduling and content recommendations for social media management.	Uses Grammarly and copywriting assistants for writing quality and efficiency.
Can you share any specific examples where AI has significantly improved your efficiency or outcomes?	Using AI for predictive analytics improved decision-making and conversion rates.	AI-powered chatbots reduced time answering queries, allowing focus on complex issues.	AI tools like TensorFlow automated testing, saving project time.	AI-based diagnostic tools helped identify health issues earlier, improving safety.	AI helped personalize marketing strategies, improving engagement rates.	AI-enhanced scheduling tools helped manage meetings and reduce overlap.
What challenges have you faced while using AI tools? How did you overcome them?	Challenge of integrating AI tools into existing systems, overcame by learning integration process.	Challenge in training AI models, overcame by seeking AI community support.	Challenge of needing vast amounts of data, overcame by sourcing diverse data.	Ensuring AI tools in healthcare were validated was a challenge, overcame by collaborating with vendors.	AI recommendations don't match preferences, overcame by tweaking the algorithm.	AI tools understanding context was a challenge, overcame by using more specific instructions.
Do you think the AI tools you use are user-friendly,	Some tools are user-friendly, others like machine	AI tools are user-friendly, but with a learning	Some tools easy to use, but platforms like	AI tools in healthcare are straightforward once trained	Many marketing AI tools are user-friendly, but complex	Most AI tools are easy to use, but some require

or do they require a lot of technical expertise?	learning platforms require technical expertise.	curve for complex tools.	TensorFlow require solid coding skills.	but require data science knowledge.	analytics require technical knowledge.	adaptation.
How do you keep up with the rapidly changing developments in AI technology?	Stays updated by attending webinars and online courses.	Subscribes to AI newsletters and attends conferences.	Follows research publications and tech companies, engages with AI communities.	Takes online courses and collaborates with AI experts to stay updated.	Reads industry reports, attends webinars, follows AI specialists on social media.	Participates in forums, watches instructional videos, collaborates with peers.
In your opinion, what is the biggest potential of AI that is still underutilized?	AI's potential in healthcare predictive diagnostics is underutilized.	AI in personalized education is underutilized.	AI's potential in automating business strategy decision-making is underutilized.	AI's potential in early disease detection in healthcare is underused.	AI's potential in creative industries, like art, is underused.	AI's potential in government services, especially predictive analytics, is underused.
What ethical concerns do you have when using AI technologies, and how do you think they should be addressed?	Concern about AI bias in decision-making, suggesting diverse data sets and monitoring.	Privacy concerns with AI, advocates for stronger data protection laws.	Concerns about AI manipulating people, especially via social media and ads.	Concern about AI's misuse in surveillance, advocating for clear policies.	Worried about AI impacting human relationships and automation, more discussions are needed.	AI's potential to perpetuate biases is a concern, calls for transparent development.
How do you envision the future of AI in your industry or field of expertise?	AI in customer behavior analysis improves processes and personalization.	AI will automate routine tasks in financial analysis, improving accuracy.	AI will play a larger role in automating decision-making processes in business.	AI will revolutionize healthcare diagnostics, making treatment planning faster and more accurate.	AI will revolutionize marketing by enabling hyper-personalization of campaigns.	AI will significantly impact administrative work in healthcare, allowing focus on patient care.
What advice would you give to someone just starting out in using AI tools or pursuing AI training?	Start with the basics and use beginner-friendly resources.	Experiment and hands-on experience is key to learning AI tools.	Focus on understanding principles of AI before using complex tools.	Get involved in AI communities and courses for real-world applications.	Learn about AI applications in your industry and integrate tools gradually.	Be patient and persistent, as AI is complex but resources are available.

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Appendix A.4: FGD Questions for Key Informants

Focus Group Discussion (FGD) questions for non-users and those untrained in AI:

1. What comes to mind when you hear the term "Artificial Intelligence"?
2. Do you think AI is something that will affect your daily life in the future? Why or why not?
3. Have you heard about AI being used in any industries or sectors? If so, which ones?
4. What do you think are the potential benefits or challenges of using AI in everyday life?
5. What are your biggest concerns about AI?
6. Do you feel confident in understanding or using technologies that involve AI? Why or why not?
7. If AI could help you in your work or personal life, what kind of tasks would you want it to assist with?
8. Would you be willing to try an AI-based tool if it was simple to use? What factors would influence your decision?
9. How do you think AI could improve or change your current experiences with technology?
10. What do you think would make AI more accessible or understandable for people who are not trained in it?
11. Focus Group Discussion (FGD) questions for users and those trained in AI:
12. How did you first get introduced to AI, and what motivated you to start using it?
13. What are the most common AI tools or technologies you use, and how have they benefited your work or daily life?
14. Can you share any specific examples where AI has significantly improved your efficiency or outcomes?
15. What challenges have you faced while using AI tools? How did you overcome them?
16. Do you think the AI tools you use are user-friendly, or do they require a lot of technical expertise?
17. How do you keep up with the rapidly changing developments in AI technology?
18. In your opinion, what is the biggest potential of AI that is still underutilized?
19. What ethical concerns do you have when using AI technologies, and how do you think they should be addressed?
20. How do you envision the future of AI in your industry or field of expertise?
21. What advice would you give to someone just starting out in using AI tools or pursuing AI training?