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AI integration in facilitating learning: Its benefits, challenges and strategies for enhancement

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A R T I C L E I N F O

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A B S T R A C T

The study aimed to examine the influence of employee treatment on organizational commitment and organizational citizenship behavior. To deepen the concept of the study, literatures were reviewed. The study used a descriptive assessment and correlational research design. The population of the study was the employees of the Divine Word College of Laoag. The study used research questionnaires to gather the data, and descriptive and inferential statistics were used to analyze the data. The study found no correlation between employee treatment and organizational commitment or organizational citizenship behavior. Thus, the hypothesis is rejected. The study recommends further study to include more organizational factors that might affect organizational commitment.

Introduction

Over recent years, artificial intelligence (AI) has increasingly transformed educational practices around the world, including in the Philippines. The post-pandemic educational landscape has further underscored the importance of digital competencies and twenty-first-century skills among educators (Ng et al., 2023). As education gradually embraces a more hybrid or fully online model, the ability of teachers to leverage AI tools effectively becomes paramount. Enhancing digital skills is not just about navigating new technologies but also about understanding how to integrate these tools into pedagogical strategies that enhance learning outcomes (Arvin, et al., 2023). Therefore, AI impacts on educational practices, necessitating the development of learning management systems, evaluation tools, and other learning support mechanisms (D'Mello & Graesser, 2012; Hwang & Tu, 2021).

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While global literature has extensively examined the pedagogical impact of AI in higher education, fewer studies have explored how secondary school teachers perceive and experience AI integration in their classrooms—especially in the Philippine context. Understanding junior high school teachers' perspectives on AI and recognizing its potential impact in educational settings is crucial, as these educators play a pivotal role in shaping students' learning experiences. Regardless of age, teachers generally demonstrated consistent perceptions across all AI-related aspects (Paie, D., 2025).

The Philippine Department of Education has begun to recognize the transformative role that artificial intelligence can play in enhancing instructional delivery. In 2025, the Department partnered with Microsoft to roll out tools such as Microsoft 365 Copilot and Reading Progress, designed to support teachers in lesson planning and reading assessments (PhilSTAR Tech, 2025). These innovations are particularly significant in junior high schools, where teachers often face the challenge of delivering content-heavy curricula within limited timeframes. At the same time, Filipino educators have generally expressed openness to the use of AI in the classroom, noting its potential to ease administrative workloads and make instruction more responsive to learners' needs (Sibug et al., 2024).

Yet, alongside these opportunities, important concerns continue to surface. Local studies have pointed to ethical dilemmas in AI adoption, raising questions about academic integrity, the nurturing of critical thinking, and the risks of overdependence on automated systems (Espartinez, 2025). Equally pressing are persistent disparities in infrastructure and teacher preparation, which shape how equitably AI technologies can be accessed and integrated across schools (Inquirer News, 2024). These challenges are particularly evident in public junior high schools where resources remain constrained.

It is within this landscape that the present study sought to explore how junior high school teachers in the division experience the use of AI tools in their classrooms. Employing a descriptive phenomenological approach, the study aimed to capture the day-to-day realities of teaching in AI-augmented environments and to draw insights that could guide professional development initiatives, inform education policies, and enrich curriculum design.

Review of related literature

This review situates the study within the growing body of research on artificial intelligence (AI) in education, with particular attention to the perceptions and experiences of junior high school teachers as they integrate AI tools into their practice. As technologies such as automated grading systems, chatbots, intelligent tutoring platforms, and content-generation applications become increasingly common in schools, they are reshaping teaching practices and classroom interactions. These tools not only support teachers in facilitating learning but also enhance instructional delivery and encourage student engagement. At the same time, gaps remain in understanding how teachers, especially in junior high school contexts, perceive, adapt to, and navigate AI integration. Addressing these gaps provides a stronger theoretical foundation for examining how educators balance the opportunities and challenges that AI-enhanced instruction presents.

Artificial Intelligence in education (AIED)

Artificial Intelligence (AI) is rapidly transforming many aspects of modern life, from answering complex questions through chatbots like ChatGPT to generating multimedia content with Microsoft Copilot (Zhang et al., 2023). While these technologies create unprecedented opportunities, their integration into education—especially in developing contexts like the Philippines—requires careful consideration. In environments where resources and infrastructure remain uneven, AI can serve either as a powerful solution to long-standing educational challenges or as a source of new barriers.

Seema (2024) highlighted AI's potential to personalize learning, enhance educational outcomes, and support teachers in their instructional responsibilities. Similarly, Chassignol et al. (as cited in Estrellado & Miranda, 2023) observed that AI applications extend beyond classroom instruction to include administration and learning processes, enabling teachers to dedicate more time to interactive and student-centered teaching. This shift illustrates AI's promise in strengthening teaching efficiency and expanding teacher competencies (Chiu et al., 2023).

Specific innovations demonstrate how this potential plays out in practice. Intelligent tutoring systems, for instance, generate personalized tasks based on individual student profiles (Cao et al., 2021; Kochmar et al., 2020). AI-powered platforms can track students' behavioral patterns and interaction sequences, equipping teachers with valuable data to assess progress and tailor instruction (Tang et al., 2021; Whalley et al., 2021). Seo et al. (2021) further emphasized AI's ability to automate repetitive tasks, deliver timely feedback, and foster peer-to-peer collaboration. Beyond the classroom, Torda (2020) described how Sophya AI expanded access to expert content, while Ratten (2020) highlighted AI's role in building digital communities where students express learning in diverse and creative ways.

As Bond et al. (2023) and Pelletier et al. (2021) noted, AI holds tremendous promise not only for improving teaching and learning but also for transforming broader aspects of educational management. Interest in AI in education has been growing steadily since the early 2000s (Baker, 2000), reflecting its increasing importance worldwide. Yet, despite this progress, significant challenges persist. Teachers often lack the technical expertise and cross-disciplinary knowledge needed to maximize AI's benefits, and many schools remain constrained by insufficient infrastructure, immature curricula, and inadequate funding. These gaps, coupled with the absence of standardized evaluation methods, continue to limit the effective and equitable integration of AI in classrooms (Vazhayil et al., 2019; Ng et al., 2022c).

These global trends intersect with local realities such as resource disparities between public and private schools, varying levels of teacher training, and infrastructure limitations. For junior high schools in particular—where curriculum delivery is both content-heavy and time-bound—the integration of AI offers opportunities to ease workload and enrich instruction, but it also raises important questions about equity, ethics, and sustainability. It is within this setting that the present study explores the perceptions and experiences of junior high school teachers, providing much-needed insights into how AI tools are reshaping classroom practice in the Philippines.

Teacher perceptions and concerns

The idea of using AI to equip teachers with "superpowers" has been explored in multiple directions, from promoting personalized instruction to identifying struggling learners and recommending learning resources tailored to student needs (Chounta et al., 2022). In the Philippines, the Department of Education (DepEd) has shown a strong commitment to advancing this potential, most notably through the establishment of the Education Center for AI Research (E-CAIR) in 2025 (DepEd, 2025a). According to official reports, E-CAIR is envisioned to develop AI-driven solutions that enhance teaching effectiveness, improve educational quality, and optimize school management, all in line with DepEd's 5-point reform agenda. While this initiative reflects a forward-looking stance on AI integration, its actual outcomes and on-the-ground impact remain to be fully assessed.

Early evidence suggests that many teachers hold generally positive views about adopting AI in the classroom. Studies indicate that educators recognize AI's ability to personalize learning and enhance instruction, while also easing the burden of administrative tasks and freeing up more time for student interaction (Kashihara et al., 2024; Sibug et al., 2024). Sibug et al. (2024) further observed that teachers are eager to experiment with these technologies, reflecting a proactive and open attitude toward innovation. However, such findings largely capture initial perceptions and may not yet reflect the longer-term complexities that accompany sustained AI use in education.

Alongside these promising perspectives, research also highlights important concerns. Munoz (2025) stresses that teachers must remain at the center of decision-making, with AI serving as a supportive tool rather than a substitute for human instruction. Echoing this caution, Mehta and Kumar (2020) noted that educators worry about losing pedagogical autonomy, particularly in areas such as curriculum design and assessment. They further underscored the urgent need for professional development to ensure teachers can effectively interpret data, understand algorithms, and navigate the ethical dimensions of AI integration.

In the Philippine context, these challenges are felt even more strongly in regions where resources are limited. Eslit (2023), for example, observed that educators in Mindanao demonstrate resilience in adapting to the rapidly evolving educational landscape, recognizing the importance of embracing technological change, including AI tools, to prepare future-ready learners. Still, constraints such as poor internet connectivity and limited infrastructure highlight the need for context-specific AI solutions and sustained support.

This study seeks to explore the perceptions and lived experiences of junior high school teachers in the Philippines regarding the use of AI tools in facilitating learning. By addressing this gap in the literature, the study aims to provide insights that can inform future strategies for more effective, ethical, and equitable AI integration in education.

Statement of the problem

This study aimed to define the experiences of junior high school teachers in the City Schools Division of Batac regarding the use of AI tools in facilitating learning. Specifically, it sought to answer the following questions:

1. What are the experiences of junior high school teachers toward the use of AI tools in the classroom?

2. How do junior high school teachers describe the ways AI tools assist them in performing their roles as facilitators of learning?

Research methodology

This chapter presents the research design, sources of data, which includes the locale of the study, population and sampling, data gathering instrument, and data analysis including its ethical standards.

Research design

This study employed a descriptive phenomenological approach to explore the anticipated lived experiences of junior high school (JHS) teachers regarding the integration of artificial intelligence (AI) tools in facilitating learning. Phenomenology, as articulated by Creswell (2013), allows for an in-depth examination of subjective realities, enabling the identification of common themes and shared meanings within a specific phenomenon. This approach was particularly well-suited for understanding complex human experiences and perspectives (van Manen, 2016).

Locale of the study

The study was conducted in the City of Batac, under the Schools Division of Batac, a region that is currently emerging into the use of AI as an augmenting tool for facilitating learning. This setting provided a valuable context for exploring the perceptions and experiences of junior high school teachers in adopting AI tools in education.

Population and sampling

The study focused on twelve (12) junior high school teachers from the City Schools Division of Batac. This population was selected through purposive sampling to obtain specific and localized insights into the teachers' perceptions and experiences regarding the use of AI tools in teaching. The selection was based on the current technological context of the area, where schools are gradually integrating digital tools into instructional practices. The chosen sample size allowed for an in-depth phenomenological exploration of both individual and shared experiences, ensuring a comprehensive analysis of how teachers navigate AI-assisted learning environments.

Data gathering instrument

This study utilized an online interview questionnaire designed to elicit detailed and reflective responses regarding the perceptions and experiences of junior high school teachers in using AI tools in facilitating

learning. The questionnaire consisted of open-ended questions that allowed participants to share their personal narratives and insights, exploring awareness and understanding of AI tools in education, perceived benefits and challenges in using AI, and perceptions on the future role of AI in education.

Data gathering procedure

The data was collected through an online interview questionnaire administered via Google Forms. This method allowed participants to respond at their convenience and encouraged reflective, open-ended responses about their experiences with AI tools in the classroom. The responses were analyzed using thematic analysis. The process included careful reading and coding of significant statements, organizing the codes into emerging themes that represent both shared and individual experiences, and reviewing and refining the themes to ensure they accurately capture the data. This approach helped construct a meaningful phenomenological understanding of AI integration in junior high school teaching practices.

Ethical considerations

This study strictly adhered to ethical standards in conducting qualitative research. Prior to data collection, participants received an informed consent form outlining the study's purpose, procedures, and their rights. Participation was voluntary, and respondents were informed of their right to withdraw at any time without penalty. Confidentiality and anonymity were maintained throughout the study. No personally identifiable information was disclosed, and all data was used solely for academic purposes. Responses were stored securely and properly disposed of after the completion of the study. To ensure compliance with ethical research standards, the research protocol was reviewed and approved by the appropriate academic or institutional body. The study guaranteed that no psychological, emotional, or professional harm would be caused to participants.

Results and discussion

This part presents findings from structured interviews conducted with junior high school teachers within the Division of Batac, providing their experiences in utilizing AI in facilitating learning. The data is organized according to key themes identified during the interviews.

Table 1: Junior high school teachers' experiences on the use of AI tools in facilitating learning

	Categories	F
Theme 1: Usefulness and relevance of AI tools	Instructional support	1
	Assessment and productivity aid	3
	Idea generation and creativity	9
Theme 2: Emotional reactions and readiness toward AI adoption	Curiosity and openness	6
	Hesitation and anxiety	2
	Readiness and confidence	5
Theme 3: Opportunities and concerns in the classroom setting	Student engagement	8
	Ethical and accuracy issues	4
	Fear of student overreliance	7

Source: Beverly (2025)

Theme 1: Usefulness and relevance of AI tools

This theme explores the perceptions of junior high school teachers regarding the usefulness and relevance of AI tools in facilitating learning. Teachers identify three key areas where AI tools contributed to their teaching practice: idea generation and creativity (P4), assessment and productivity aid (P7), and instructional support (P2). Among the three, idea generation and creativity emerged as the most frequently mentioned, highlighting teachers' growing reliance on AI for brainstorming engaging activities and learning tasks. Teachers also acknowledged the practical value of AI in reducing preparation time for assessments and instructional materials. Although less frequently noted, some participants shared that AI helped simplify instructional content for improved student understanding. The following statements by the participants illustrate these perceptions:

"I use AI to help me think of activities that are aligned with the lesson; it saves me time and gives fresh ideas." (P4)

"AI really helps me generate quiz questions or ideas for performance tasks. It lessens the time I usually spend preparing for assessments." (P7)

"Sometimes I use AI to explain concepts in a way that's simpler for my students. I then modify the output and include it in my slides." (P2)

These insights underscore how teachers view AI as a practical partner in instructional planning and creativity. They reflect the growing integration of AI in everyday teaching workflows, particularly in augmenting content development and reducing cognitive and administrative burdens. This supports the findings of Chiu et al. (2023), who emphasized AI's value as a cognitive support tool that helps teachers focus more on pedagogical quality rather than logistical tasks. Similarly, Holmes et al. (2019) noted that when used thoughtfully, AI can enhance personalization, creativity, and instructional efficiency in modern classrooms.

Theme 2: Emotional reactions and readiness toward AI adoption

For many junior high school teachers, the adoption of AI tools brought about mixed emotions. Feelings ranged from excitement and openness to new possibilities (P6), to anxiety and uncertainty (P5), and eventually to confidence and readiness (P9). Although intimidation was common among teachers with limited digital experience, this initial unease often gave way to confidence as they gained exposure to AI applications. Notably, curiosity stood out as the prevailing sentiment, underscoring teachers' willingness to embrace innovation despite challenges:

"At first, I was anxious, but after trying it once, I found it really useful." (P5)

"I'm actually excited about it. I'm always curious about what else AI can help with in the classroom." (P6)

"I now use AI in my lesson planning almost weekly. Once I got used to it, it became part of my teaching routine." (P9)

These emotional responses illustrate the transitional nature of AI adoption in education, where teachers move along a spectrum from curiosity to confidence. This reflects Bandura's (1997) theory of self-efficacy, which emphasizes that belief in one's capabilities plays a key role in adopting new behaviors. Additionally, the Technology Acceptance Model (TAM) proposed by Davis (1989) supports this idea, asserting that perceived usefulness and ease of use influence an individual's acceptance of technology. These findings underscore the importance of targeted professional development that builds both the skills and confidence necessary for effective AI integration.

Theme 3: Opportunities and concerns in the classroom setting

Teachers frequently cited enhanced student engagement (P8) as a major opportunity when AI is integrated into learning activities, especially those that involve visual, interactive, or gamified elements. However, concerns were also raised, particularly related to ethical and accuracy issues (P3) and the fear of student overreliance on AI (P10). Teachers observed that while students were generally more motivated when AI tools were introduced, some learners began to rely too heavily on AI-generated content, using it as a shortcut rather than engaging in authentic learning. The following participant statements illustrate these perceptions:

"AI tools can get the students excited about a topic, especially when it involves interactive features or visual prompts." (P8)

"Sometimes the information AI provides is not always correct or updated, and I have to double-check it before using." (P3)

"Students tend to just copy what AI gives and doesn't bother to think anymore." (P10)

These insights present a double-edged view of AI in the classroom—where engagement is enhanced, but critical thinking may be compromised if students misuse the technology. This reflects the findings of Xu and Wang (2022), who noted that while AI can be a powerful educational resource, its unregulated use poses risks to academic integrity and deep learning. Teachers' concerns emphasize the need for clear guidelines, digital citizenship education, and teacher-led modeling of responsible AI use. Such measures can help maximize the benefits of AI while minimizing its unintended consequences in the learning process.

Table 2: Junior high school teachers' experiences on the use of AI tools in facilitating learning

Themes	Categories	F
Theme 1: AI as a Supportive tool for teaching efficiency	Lesson planning and resource creation	9
	Assessment and feedback tools	6
	Classroom engagement strategies	5
	Reviewing and revising AI outputs	1

Theme 2: Strategies for effective AI integration	Aligning with curriculum	2
	Differentiation based on learner needs	4
Theme 3: Challenges and adaptive measures	Lack of training and digital skills	7
	Internet and technological barriers	3
	Risk of misuse and dependency	8

Source: Beverly (2025)

Theme 1: AI as a supportive tool for teaching efficiency

This theme reflects how teachers experience AI tools as aids in improving their efficiency in classroom tasks. Their responses were grouped into three categories: lesson planning and resource creation (9 responses), assessment and feedback tools (6 responses), and classroom engagement strategies (5 responses). Among these, the most frequently noted was the use of AI for lesson planning and creating teaching materials, allowing teachers to save time and focus more on learner support. Others found AI helpful in constructing test items, rubrics, and providing automated feedback. Teachers also cited its usefulness in enhancing student participation through interactive content. The following statements illustrate these experiences:

"It helped me create learning materials faster, so I had more time to attend to struggling students." (P9)

"I use AI to draft quizzes and generate immediate feedback for some of my formative assessments." (P7)

"Sometimes I use it to make classroom prompts or questions that I can easily adjust to encourage discussion." (P5)

These experiences suggest that teachers are beginning to integrate AI into their daily routines not just for convenience, but to enhance the quality of interaction and instructional design. As Holmes et al. (2019) noted, AI can ease administrative burdens and allow teachers to focus more on higher-order teaching tasks, such as personalized instruction and student support. This supports the claim that AI, when used intentionally, can increase both productivity and professional fulfillment for educators.

Theme 2: Strategies for effective AI integration

Integrating AI tools into classroom practice required teachers to employ different strategies to make outputs more meaningful for instruction. Three approaches emerged: reviewing and revising AI outputs (1 response), aligning with curriculum standards (2 responses), and tailoring content to meet learner needs (4 responses). Though not widely reported, these strategies reveal thoughtful ways teachers ensured that AI outputs supported their teaching objectives. Some verified the accuracy and appropriateness of materials, others emphasized curriculum fit, and a number adapted outputs for students with varying abilities. The following responses shed light on these practices:

"Even if AI provides an output, I still change it so it's suitable for my students' levels." (P3)

"I make sure that what I get from AI still matches the curriculum guide." (P6)

"I use the AI suggestion only as a draft, and then I rewrite based on what my class needs." (P8)

These strategies indicate early-stage digital pedagogical thinking, where teachers go beyond simply using AI and instead critically evaluate and adapt its outputs. Chiu et al. (2023) emphasize the importance of such reflective practices, stating that AI literacy includes not just usage but also evaluation, revision, and contextual application. This shows that even in low-resource settings, teachers can begin to exercise digital agency and pedagogical discretion.

Theme 3: Challenges and adaptive measures

This theme surfaces both the challenges and coping mechanisms teachers encountered when using AI. Their responses were grouped into three areas: limited training and digital skills (7 responses), technological and connectivity barriers (3 responses), and concerns over misuse and dependency (8 responses). A number of teachers admitted that insufficient training left them less confident in navigating AI tools. Others described unreliable internet and lack of devices as obstacles that disrupted access. Some also worried that students might misuse AI or depend on it excessively. In response, teachers sought support from peers or engaged in self-study to strengthen their competence. The following excerpts demonstrate these barriers and coping strategies.

"We need training. Sometimes I don't even know if I'm using it right." (P1)

"The internet here is unstable, and I can't always access the tools I want to use." (P2)

"Some students just let AI answer everything for them and don't try to learn anymore." (P10)

These challenges highlight the systemic barriers to effective AI use in schools, including digital infrastructure gaps and insufficient training programs. At the same time, they reveal the adaptability of teachers, many of whom take proactive steps to overcome these limitations. These findings support UNESCO's (2021) assertion that successful technology integration in education requires not just tools, but also capacity-building, equitable access, and responsible use frameworks. For AI to truly support education, both technical and ethical guidance are needed.

Conclusion

This study sheds light on how junior high school teachers in the City Schools Division of Batac perceive and experience the integration of Artificial Intelligence (AI) tools in teaching and learning. The findings reveal both the promise and the complexity of AI in the classroom, highlighting not only its potential benefits but also the uncertainties and challenges that shape its use.

Teachers generally expressed positive perceptions of AI, recognizing its capacity to enhance creativity, productivity, and efficiency. They saw it as a valuable support in lesson preparation, idea generation, and assessment design, noting that it saves time and strengthens instructional delivery when used judiciously. Beyond practical applications, AI also evoked varied emotional responses. Many teachers

approached it with curiosity and openness, motivated to explore its possibilities. Some reported confidence and readiness, having experimented with AI for classroom purposes, while others admitted feelings of hesitation and anxiety, particularly when lacking formal training or when uncertain about the reliability of AI outputs.

The duality of opportunity and risk emerged clearly in teachers' reflections. On one hand, AI was perceived to foster greater student engagement through interactive and personalized content. On the other, concerns were raised about ethical considerations, the possibility of misinformation, and the risk of student overreliance, where learners might prefer shortcuts over cultivating critical thinking skills. This ambivalence underscores that while AI holds strong pedagogical potential, its integration requires discernment and balance.

Teachers' lived experiences further illustrate this dynamic. Many relied on AI to streamline routine tasks such as lesson planning, content generation, and assessment creation, allowing them to devote more energy to meaningful classroom interactions. At the same time, they developed deliberate practices to ensure responsible use: reviewing outputs for accuracy, adapting content to local contexts, and positioning AI as a supplementary resource rather than a substitute for professional judgment. Such practices reflect the emergence of digital maturity among educators, who are increasingly mindful of how technology can shape both teaching and learning.

Nonetheless, structural and contextual challenges continue to hinder effective AI integration. Limited training opportunities, varying levels of digital competence, connectivity issues, and inequitable access to devices were among the most pressing barriers. Teachers also faced concerns about academic integrity, particularly when students attempted to misuse AI during assessments. In response, educators demonstrated resilience, turning to peer collaboration, self-directed learning, and experimentation as means of coping with these challenges.

Taken together, these findings underscore the urgent need for a systematic approach to AI integration in education. Professional development that builds digital competence and deepens understanding of ethical and pedagogical applications is critical. Equally important is investment in digital infrastructure and access, ensuring that all schools—regardless of context—can benefit from emerging technologies.

Ultimately, this study highlights that the future of AI in education cannot rest on technology alone. Its success will depend on the capacity of teachers to use it responsibly, critically, and creatively. For this to happen, policymakers, school leaders, and teacher training institutions must provide not only tools but also frameworks of guidance and support. By fostering this balance between innovation and responsibility, AI can be harnessed not as a replacement for human teaching, but as a partner in cultivating meaningful, ethical, and inclusive learning experiences for Filipino students.

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