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Teachers' Competence in Using AI Tools Through Capacity-Building For Effective Learning Delivery

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Abstract

This action research entitled **"Teachers' Competence in Using AI Tools through Capacity-Building for Effective Learning Delivery"** aimed to determine the level of teachers' competence in using AI tools in terms of understanding AI concepts, operational proficiency, ability to integrate AI into academic tasks, and confidence in applying AI within educational settings. The study also examined the effectiveness of AI tools in learning delivery with respect to lesson preparation, classroom engagement, and assessment and feedback, explored how capacity-building activities enhance teachers' competence, and identified the challenges teachers encounter in using AI tools.

The findings revealed that teachers are generally competent in using AI tools, particularly in understanding AI concepts, exploring new applications, and guiding students in responsible use. Nevertheless, confidence in applying these tools and their practical integration into classroom activities remain areas for further development. Moreover, AI tools demonstrated high effectiveness in lesson preparation, as they assist teachers in generating instructional content, organizing lesson plans, and developing varied resources. In contrast, their use was only moderately effective in enhancing classroom engagement and providing timely assessment and feedback. Importantly, capacity-building activities, including hands-on demonstration sessions, peer coaching, mentoring, and instructional guides, played a significant role in improving teachers' operational skills, confidence, and overall competence in using AI tools. However, key challenges such as time constraints, limited access to updated AI resources, insufficient training, and technical issues continue to affect the smooth implementation of AI-supported instruction.

Based on these findings, capacity-building activities were proposed to strengthen teachers' knowledge, operational skills, and confidence, including structured training workshops, collaborative mentoring, hands-on practice sessions, and provision of accessible instructional guides. These interventions aim to support sustainable, ethical, and effective integration of AI tools in teaching and learning.

Keywords: *teachers' competence, AI tools, capacity-building, learning delivery*

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Introduction

Artificial intelligence has a significant impact on our society and the modern world. Industries are benefiting from automation, data modeling, data analysis, and better decision making—all of which are routine tasks carried out by AI. Through the use of AI tools like chatbots, adaptive learning systems, and virtual learning applications, educators will be able to provide instruction and help students learn. Additionally, the COVID-19 pandemic's impact on the advancement of digital technology has led to a sharp rise in the employment of AI in schools today. AI may now be used by teachers to create lesson plans and give pupils individualized learning experiences through interactive, adaptable resources that encourage participation in their education.

Although AI has many benefits for education, its successful application depends on teachers' capacity and readiness to incorporate it into their work. In order to do this successfully, educators need to be sufficiently knowledgeable, technically proficient, and confident in their ability to use AI to support their teaching. Low levels of digital literacy, inadequate AI training, restricted access to financing and administrative support for AI implementation, and concerns about potential abuse of AI technology are just a few of the major issues that many educators still face. Each of these obstacles may make it more difficult for educators to successfully incorporate AI into their lessons, which would increase the educational disparity due to unequal access to AI.

To address these problems, instructors can become more comfortable with their AI expertise by engaging in various forms of professional development and capacity building. Teachers can acquire the skills required to meaningfully incorporate AI into their teaching and learning processes through seminars, training sessions, mentoring, and instructional support. According to research, well-designed training programs boost instructors' self-esteem and result in higher-quality education.

In the framework of the Philippine educational system, the growing usage of digital technology has increased the need to continue building teacher preparation for the use of artificial intelligence (AI) tools. Although many Filipino educators have shown that they can adjust to new technologies, there is still a considerable disparity in digital competency among teachers for a variety of reasons. Schools will soon have access to AI tools, so it's critical that educators get the help and training they need to use these tools efficiently.

This research study investigates teacher competence related to the use of AI tools, as well as how capacity-building activities can impact teachers' ability to effectively deliver education through AI. More specifically, the research will examine teacher comprehension of AI concepts and their applications; teacher skills in using AI tools for instruction; teacher's ability to successfully integrate AI into academic assignments; and the amount of confidence teachers have in utilizing AI tools within an educational setting. As part of this research study, the effectiveness of AI tools for lesson planning, student engagement in class, and assessment and feedback will also be explored. In addition, this research study will also explore the role of capacity-building activities (e.g., hands-on demonstration sessions, peer coaching or peer mentoring, instructional resources or instructional guides) in improving teacher competence. Finally, this study will also investigate the barriers to teachers' use of AI tools, and propose

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capacity-building activities designed to continue enhancing the capabilities of teachers in an ever-adapting digital learning environment.

II. METHODS

Research Design

This study used a descriptive research design to investigate teachers' proficiency with AI tools and the contribution of capacity-building exercises to improved learning delivery. In order to describe the current state of teachers' comprehension, competence, confidence, and integration of AI tools in teaching without manipulating variables, descriptive research was appropriate for this study. It also made it possible to systematically analyze teachers' responses, experiences, and practices regarding AI utilization.

Respondents of the Study

Thirty-two (32) teachers from Stonyhurst Southville International School Batangas who were actively involved in classroom instruction during the school year 2025–2026 made up the respondents. These teachers represented a variety of subject areas where AI tools could be used in teaching and learning, and they included both male and female teachers with varying degrees of experience and familiarity with using AI and digital technologies in education. 2025–2026. These instructors represented several topic areas where AI tools may be used in teaching and learning, and they were actively involved in classroom education. Both male and female educators with differing degrees of expertise and familiarity with utilizing AI and digital technology in the classroom were among the responses.

Data Gathering Instruments

The main tool used in this study was a questionnaire created by the researcher to evaluate teachers' proficiency with artificial intelligence (AI) tools and the role of capacity-building activities in supporting effective learning delivery. The questionnaire measured teachers' comprehension of AI concepts and applications, their ability to operate AI tools, their ability to integrate AI into academic tasks, and their confidence in using AI in educational settings. It also evaluated the effectiveness of AI tools in lesson preparation, classroom engagement, assessment, and feedback, as well as the difficulties teachers faced when utilizing AI. The questionnaire was validated by experts before it was administered. The tool specifically assessed teachers' knowledge of AI principles and applications, their competence with AI tools, their capacity to incorporate AI into academic assignments, and their confidence in using AI in learning environments. It also evaluated the difficulties teachers had while utilizing AI tools, as well as the efficacy of these tools in lesson planning, classroom participation, evaluation, and feedback. Before being administered, the questionnaire was validated by experts to guarantee the validity and reliability of the results.

Data Gathering Procedure

Prior to conducting the study, the researcher obtained permission from the school administration. The questionnaire was personally given to the 32 teachers who were chosen from

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Stonyhurst Southville International School Batangas, and they were given enough time to complete it honestly. Respondents were guaranteed confidentiality and voluntary participation; additional insights were obtained by conducting follow-up interviews with the teachers who were chosen. The collected data were then retrieved, organized, tabulated, and prepared for analysis. The 32 chosen teachers of Stonyhurst Southville International School in Batangas were personally handed the questionnaire, and they were given enough time to complete it honestly. Confidentiality and voluntary involvement were guaranteed to respondents. To obtain more information, follow-up interviews with a subset of teachers were also carried out. After that, the gathered data was extracted, arranged, tallied, and ready for analysis.

Statistical Treatment of Data

To ensure accurate interpretation of the results, the acquired data were examined using the proper statistical methods. The distribution of answers was described using frequency and percentage. The usefulness of AI in learning delivery, the influence of capacity-building activities, the difficulty of integrating AI, and the degree of teachers' proficiency with AI tools were all assessed using the weighted mean. Additionally, based on the calculated values, ranking was used to determine which responses were most important. These statistical techniques offered a solid foundation for analyzing teachers' proficiency, experiences, and difficulties when utilizing AI systems for teaching.

III. RESULTS

1. Level of Teachers' Competence in Using AI Tools

A. Level of Teachers' Competence in Using AI Tools in terms of Understanding of AI Concepts and Applications

With a composite mean of 3.16, teachers showed an overall "Competent" level of understanding of AI concepts and applications. They were very competent in identifying AI applications in lesson planning and differentiating AI tool functions, but their comprehension of fundamental AI concepts received the lowest rating at 2.99, indicating stronger practical use than theoretical knowledge. Respondents demonstrated exceptional proficiency in identifying AI uses in lesson planning and differentiating AI tool functions. Their comprehension of fundamental AI ideas, however, scored the lowest at 2.99, showing more practical application than theoretical understanding.

Teachers demonstrated a strong practical understanding of how various AI platforms can be used in teaching by being "Highly Competent" in identifying the applications of AI tools in lesson preparation and instructional delivery, as well as in differentiating the features and functions of various AI tools.

The lowest-rated area was understanding the fundamental concepts of AI and its role in education, although still at a competent level. This suggests that teachers are more familiar with the practical use of AI tools than with their underlying concepts, highlighting the need for additional training to strengthen foundational AI literacy. They

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were also competent in identifying AI tools that support teaching and learning and in demonstrating awareness of ethical and responsible use of AI, demonstrating that they can recognize useful tools and understand basic ethical considerations.

Though still at a respectable level, comprehending the fundamental ideas of AI and its function in education received the lowest rating. This highlights the need for additional training to increase basic AI literacy since it implies that teachers are more familiar with the actual application of AI tools than with their underlying ideas.

B. Level of Teachers' Competence in Using AI Tools in terms of Proficiency in Operating AI tools for Teaching

With a composite mean of 3.24, teachers demonstrated a "Competent" level of proficiency in using AI tools for teaching. They were highly competent in editing AI-generated content (3.44) and effectively using prompts (3.38), but they scored lower when navigating AI features (3.02), indicating the need for additional technical training. They were quite skilled at utilizing prompts (3.38) and altering AI-generated content (3.44). Navigating AI functions received lower ratings (3.02), indicating the need for additional technical training.

Teachers are highly capable of assessing and modifying AI outputs to ensure correctness and instructional relevance, as seen by their highest strength in editing and refining AI-generated content. Additionally, they demonstrated a high level of proficiency in the usage of suitable prompts, demonstrating their capacity to successfully direct AI tools to provide instructive outputs.

Overall, the results show that teachers are generally proficient in using AI, but additional training could improve their efficiency and full utilization of AI features in teaching. Additionally, teachers were competent in creating instructional resources and generating teaching materials using AI, suggesting that they are already integrating AI into practical classroom tasks, though not consistently in all situations. The lowest-rated area was navigating the features and functions of AI platforms, indicating that some teachers are not yet fully maximizing the capabilities of AI tools.

Navigating the features and functionalities of AI platforms had the lowest rating, which suggests that some teachers are still not making the most of AI technologies even when they are proficient. Overall, the results indicate that instructors are generally adept at employing AI; however, additional training could improve their effectiveness and enable them to fully utilize AI capabilities in the classroom.

C. Level of Teachers' Competence in Using AI Tools in terms of Ability to Integrate AI into Academic Tasks

With a composite mean of 2.89, teachers showed a "Competent" level in integrating AI into academic tasks; they were most proficient in creating instructional

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materials (3.19) but less proficient in lesson planning integration (2.66), indicating limited but growing application in actual classroom planning. They had lesser ability in lesson planning integration (2.66), showing limited but growing application in actual classroom planning, while they were strongest in creating instructional materials (3.19).

Using AI to create instructional materials and learning tools was the strongest area, demonstrating that teachers are reasonably adept at producing lessons, exercises, and examples. Additionally, they were proficient in using AI to create worksheets and quizzes as well as to provide explanations and feedback, which enhances student comprehension and instructional effectiveness.

Overall, the results indicate that although teachers are starting to incorporate AI into teaching and learning tasks, deeper and more consistent application—especially in lesson planning—is still required. Teachers also moderately used AI to support students' academic tasks, indicating some integration of AI in learner activities. The lowest-rated area was using AI in lesson planning and instructional activities, suggesting that AI is not yet fully embedded in structured teaching preparation due to constraints like time, curriculum requirements, and limited familiarity. However, integrating AI in lesson planning and instructional activities received the lowest rating, indicating that due to limitations like time, curricular needs, and insufficient familiarity, AI is not yet fully integrated into structured teaching preparation.

The results point to the need for deeper and more consistent application of AI, particularly in lesson planning, even though teachers are starting to incorporate it into teaching and learning tasks.

D. Level of Teachers' Competence in Using AI Tools in terms of Confidence in Applying AI within Educational Settings

With a composite mean of 2.78, teachers demonstrated a "Competent" level of confidence in using AI tools. They were most confident when it came to investigating new AI tools (3.09) and helping students use them responsibly (2.97). On the other hand, their readiness for daily AI integration (2.49) was the lowest, indicating reluctance in regular classroom use. They felt most comfortable assisting students in responsible use (2.97) and investigating new AI technologies (3.09). But the lowest readiness for everyday AI integration (2.49) indicated reluctance to apply it consistently in the classroom.

Exploring new AI tools for teaching and learning was the strongest area, demonstrating instructors' proactive adoption of developing technologies. Additionally, they felt comfortable instructing students on how to utilize AI responsibly, demonstrating their understanding of moral and secure AI procedures.

Additionally, teachers demonstrated competence in managing AI-supported classroom activities; however, AI use is still more common in preparing materials than in real-time instruction; lower confidence was seen in using AI during actual classroom

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instruction, indicating hesitation due to curriculum constraints and limited training; the lowest-rated area was readiness to consistently integrate AI into daily teaching practices, suggesting that external factors such as limited resources, connectivity issues, and lack of hands-on experience still hinder full adoption; overall, teachers are open and moderately confident in their use of AI in the classroom. Due to curriculum limitations and a lack of training, there was less confidence in the use of AI during actual classroom instruction.

Readiness to regularly incorporate AI into everyday teaching methods received the lowest rating, indicating that external reasons like scarce resources, connectivity problems, and a lack of practical experience continue to impede complete adoption. Teachers are generally open to adopting AI and have a moderate level of confidence in doing so, but more training and assistance are required to improve consistent classroom integration.

2. Effectiveness of Using AI Tools in Learning Delivery

A. Effectiveness of Using AI Tools in Learning Delivery in terms of Lesson Preparation

With a composite mean of 3.34, AI tools were rated as "Moderately Effective," indicating strong support in lesson preparation. They were most effective in cutting preparation time (3.61), followed by organizing lesson plans (3.39), generating lesson ideas (3.33), and creating examples and activities (3.57). Developing differentiated resources (3.24, Moderately Effective), indicating the need for teacher adaptation for diverse learners. They were most successful in cutting down on preparation time (3.61), which was followed by developing activities and examples (3.57), planning lessons (3.39), and coming up with lesson ideas (3.33). Creating differentiated resources had the lowest score (3.24, Moderately Effective), suggesting that teachers must adapt to a diverse student body.

The main advantage was that teachers could work more productively and concentrate on enhancing education as less time was needed for lesson planning and material preparation. Additionally, teachers found AI useful for creating exercises, explanations, and examples as well as for more efficiently structuring lesson plans, which enhanced teaching coherence and organization

Overall, AI tools were seen as helpful in improving lesson preparation and engagement, but full optimization in classrooms is still limited by contextual and practical constraints. Additionally, AI was effective in providing lesson ideas and instructional content, supporting creativity and planning. However, its use in developing differentiated instructional materials for diverse learners was only moderately effective, indicating that teachers still need to adjust AI outputs to fit student needs. Teachers still need to modify AI outputs to meet the needs of their students, as evidenced by the moderate effectiveness of its application in creating differentiated educational resources for varied learners.

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Lesson planning and engagement were found to be improved by AI technologies; nevertheless, practical and contextual limitations still prevent full classroom optimization.

B. Effectiveness of Using AI Tools in Learning Delivery in terms of Classroom Engagement

With a composite mean of 3.20, which indicates partial but not complete optimization in classrooms, AI tools were rated as "Moderately Effective." They performed best in interactive content delivery (3.42) and student activities (3.36), followed by curiosity-driven tasks (3.21) and collaborative activities (3.05). Real-time explanations (2.97) received the lowest rating, indicating that AI is primarily used for support rather than live instruction. Curiosity-driven tasks (3.21) and group activities (3.05) came in second and third, respectively, after interactive content delivery (3.42) and student activities (3.36). Real-time explanations had the lowest score (2.97), indicating that AI is primarily utilized for support rather than actual education.

Using AI to deliver lesson content in more interactive and captivating ways received the best rating, demonstrating how AI aids in capturing students' attention through dynamic presentations and images. AI was also quite successful in developing interactive tasks and quizzes that stimulate student participation and active learning.

Furthermore, AI demonstrated a modest level of effectiveness in creating curiosity-driven tasks and facilitating cooperative or problem-solving activities, suggesting that while it might be helpful in improving student interaction, teacher leadership and contextualization are still necessary.

Using AI for in-the-moment explanations or clarifications received the lowest rating, indicating that teachers continue to be crucial in answering queries and directing class discussions. In general, AI encourages participation, although its application is still mostly supplemental rather than completely incorporated into in-person classroom interactions.

C. Effectiveness of Using AI Tools in Learning Delivery in terms of Assessment and Feedback

With a composite mean of 3.07, AI tools were rated as "Moderately Effective" in assessment and feedback. They were most successful in creating assessment questions (3.37) and least successful in identifying learning issues (2.73), suggesting that evaluation relies heavily on teacher judgment. They relied on teacher judgment for evaluation, as evidenced by their highest effectiveness in creating assessment questions (3.37) and lowest effectiveness in identifying learning issues (2.73).

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The creation of assessment questions was the most successful application of AI, demonstrating how it facilitates teachers' efficient creation of tests and exercises. Additionally, AI was successful in verifying student answers and offering prompt feedback, facilitating quicker and more effective evaluation procedures.

Overall, AI supports assessment and feedback primarily as a tool for efficiency, but teachers are still necessary for accurate evaluation and meaningful interpretation of student performance. However, AI was only moderately effective in grading and providing feedback because most evaluation still relies on manual teacher judgment, particularly for written and performance-based tasks. The lowest-rated area was identifying students' learning difficulties, demonstrating AI's limitation in detecting deeper learning gaps. spotting pupils' learning challenges had the lowest rating, demonstrating AI's limitations in spotting more profound learning gaps.

Teachers are still necessary for accurate evaluation and insightful interpretation of student achievement, even though AI primarily supports assessment and feedback as a tool for efficiency.

3. Impact of Capacity-Building Activities on Teachers' Competence in Using AI Tools

A. Impact of Capacity-Building Activities on Teachers' Competence in Using AI Tools in terms of Hands-On Demonstration Sessions

With a composite mean of 3.50, capacity-building through practical demonstrations was rated as "Strongly Agree," indicating a strong positive impact on teachers' AI competence. The highest-rated benefit was clear guidance on AI use (3.74), followed by improved ability to operate AI tools (3.66) and increased confidence in integration (3.49). Teachers also reported gains in exploring AI features (3.32) and understanding practical applications in lesson preparation (3.28). In summary, hands-on sessions greatly enhanced teachers' skills, confidence, and practical application of AI in teaching. Clear instructions on how to utilize AI were the most highly rated benefit (3.74), followed by enhanced proficiency with AI tools (3.66) and greater assurance in integration (3.49). Additionally, teachers noted improvements in their comprehension of real-world applications in lesson planning (3.28) and their exploration of AI characteristics (3.32).

Giving instructors clear instructions on how to utilize AI in the classroom had the biggest impact, followed by enhancing their capacity to use AI technologies efficiently. Additionally, these sessions helped teachers examine various AI capabilities for usage in the classroom and increased their confidence in using AI into instruction. In general, teachers were better able to comprehend and use AI in lesson planning and instruction thanks to practical training.

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B. Impact of Capacity-Building Activities on Teachers' Competence in Using AI Tools in terms of Peer Coaching or Mentoring

Peer coaching or mentoring was rated as "Agree" with a composite mean of 3.27, indicating that collaborative professional support plays an important role in strengthening teachers' competence in using AI tools. The highest-rated benefit was sharing experiences and best practices (3.43), indicating that peer discussions allow teachers to exchange practical strategies and real classroom experiences that improve their use of AI. This is followed by guidance from experienced colleagues (3.39), highlighting the value of mentorship in a school setting where teachers have varying degrees of technological expertise.

Sharing experiences and best practices was the most highly ranked benefit (3.43), demonstrating how peer exchanges enable teachers to share useful tactics and actual classroom experiences that enhance their use of AI. This is followed by advice from more seasoned colleagues (3.39), which emphasizes the importance of mentorship in offering quick, workable answers to problems, particularly in an educational setting where teachers have different degrees of technological expertise.

The lowest-rated indicator was learning effective strategies through peer coaching (3.09), indicating that while peer support is beneficial, it is not always structured or maximized due to limited time or formal mentoring systems. Teachers also reported that peer coaching helps build confidence in integrating AI into instruction (3.24), as support from colleagues reduces hesitation and encourages more consistent use of AI tools. Additionally, by encouraging ongoing learning and reinforcing abilities acquired during training, peer mentorship (3.20) enhances total competency.

Learning useful techniques through peer coaching, on the other hand, had the lowest rating (3.09), indicating that although peer support is helpful, it is not always organized or optimized because of time constraints or formal mentorship programs.

In general, peer coaching improves teachers' AI proficiency by encouraging cooperation, self-assurance, and ongoing professional development while utilizing AI technologies for teaching.

C. Impact of Capacity-Building Activities on Teachers' Competence in Using AI Tools in terms of Instructional Resources or Guides

Instructional resources or guides were scored as "Agree" with a composite mean of 3.36, indicating that teachers place a high priority on learning materials for enhancing their AI proficiency.

Clear instructional instructions on AI use in teaching (3.47) and step-by-step guidelines (3.51) were the most highly ranked forms of support, both of which made it easier for instructors to comprehend and use AI. Additionally, teachers said that materials helped them comprehend the functionalities of AI tools (3.28) and enhanced their skills and confidence (3.40).

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Support for actual classroom integration received the lowest rating (3.16), indicating that although the resources are useful, additional real-world and contextual examples are still required.

Teachers' autonomous learning, self-assurance, and comprehension of AI tools are often strengthened by educational materials; nonetheless, more robust application support is still needed.

4. Challenges Encountered by Teachers in Using AI Tools for Effective Learning Delivery

With a composite mean of 3.15, teachers generally "Agree" that they face difficulties when utilizing AI tools, indicating that a number of obstacles still prevent effective AI integration in the classroom. Time constraints were the biggest obstacle, with a weighted mean of 3.68, followed by a lack of professional development opportunities at 3.65 and a lack of familiarity with AI tools at 3.60, indicating gaps in training and experience that affect effective use.

With a weighted mean of 3.68, time restrictions were the biggest obstacle. These were followed by a lack of professional development opportunities at 3.65 and a lack of knowledge with AI technologies at 3.60, indicating training and experience gaps that hinder successful utilization.

Teachers also reported difficulty in aligning AI tools with curriculum and learning objectives at 2.99 and concerns about students' over-reliance on AI at 2.68. Lower-rated concerns include ethical issues in AI use at 2.50 (Disagree), while resistance to change or preference for traditional methods was the least significant challenge at 2.38 (Disagree). Overall, the findings indicate that challenges are primarily structural and practical rather than attitudinal. Additionally, teachers expressed worries about pupils' excessive reliance on AI (2.68) and difficulty integrating AI technologies with curriculum and learning objectives (2.99).

The least important barrier was resistance to change or a preference for conventional ways, which was assessed at 2.38 (Disagree), while lower-ranked concerns included ethical challenges in the employment of AI at 2.50 (Disagree). Overall, the results indicate that structural and practical issues predominate over attitudinal ones.

IV. DISCUSSION

The results show that teachers generally have a competent to highly competent level of AI tool use, especially in practical applications like lesson planning, material development, and editing AI-generated outputs. However, their competence is lower in foundational understanding of AI concepts, curriculum integration, and consistent classroom application, suggesting that AI use is still largely functional rather than deeply integrated into pedagogy. In terms of effectiveness, AI tools are perceived as highly effective in lesson preparation but only moderately effective in classroom engagement and assessment, indicating that AI is primarily

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used as a support tool for planning rather than for real-time instruction or evaluation. However, their proficiency in curricular integration, consistent classroom application, and fundamental grasp of AI ideas is lower, indicating that AI use is still mostly functional rather than thoroughly integrated into pedagogy. AI is mostly employed as a support tool for planning rather than for real-time instruction or evaluation, as evidenced by the perception that AI tools are highly effective in lesson preparation but only moderately good in classroom participation and assessment. The relevance of experiential and collaborative learning in enhancing teachers' AI competency was highlighted by the high ratings given to capacity-building exercises such as practical demonstrations, peer coaching, and instructional guides. Teachers also noted important obstacles that still prevent complete integration, including time restraints, inadequate training, unfamiliarity with AI tools, and infrastructure problems.

These results are consistent with previous research, especially Tan et al. (2025), who observed that teachers frequently exhibit stronger practical use of technology than conceptual understanding; Gameil and Al-Abdullatif (2023) support the finding that digital proficiency increases instructional efficiency, particularly in lesson preparation; and Diamante et al. (2025) and Zamiri & Esmaeili (2024), who highlighted that experiential learning and collaboration significantly improve confidence and technology adoption among teachers. In a similar vein, Gameil and Al-Abdullatif (2023) corroborate the finding that digital competency improves instructional effectiveness, particularly in lesson planning. According to Diamante et al. (2025) and Zamiri & Esmaeili (2024), experiential learning and teamwork greatly boost instructors' confidence and adoption of technology, which is consistent with the major influence of practical training and peer support. Furthermore, Raaj (2025) clarified that AI is still limited in activities requiring professional judgment and contextual evaluation, which is reflected in the moderate effectiveness of AI in assessment and real-time instruction. The difficulties noted are also in line with Delello et al. (2025), who recognized infrastructural problems, training gaps, and low literacy as enduring obstacles to AI inclusion in education.

In terms of implications for practice and policy, the study emphasizes the necessity of ongoing, structured professional development programs that go beyond technical training to include AI literacy and pedagogical integration; schools should bolster practical training, peer mentoring programs, and the provision of clear instructional guides to support sustained teacher development; at the policy level, investment in digital infrastructure, dependable internet access, and AI-ready classroom environments is crucial; curriculum integration frameworks for AI use must be developed, ensuring that technology complements rather than replaces instructional objectives; institutionalizing capacity-building programs will further guarantee long-term teacher readiness and successful AI integration in education. To assist long-term teacher growth, schools should improve practical training, peer mentorship programs, and the availability of clear instructional guidelines. Investments in digital infrastructure, dependable internet connectivity, and AI-ready classrooms are crucial at the policy level. In order to ensure that technology complements rather than replaces educational objectives, it is also necessary to create explicit curriculum integration frameworks for the use of AI. Long-term teacher preparedness and successful AI integration in education will be further ensured by institutionalizing capacity-building initiatives.

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The study's limitations include its small sample size of 32 teachers from a single institution, which restricts its generalizability; its reliance on self-reported data, which may be impacted by subjectivity and perception bias; its focus on perceived competence and effectiveness rather than actual classroom performance or student outcomes; and the results may change as AI technologies continue to advance quickly. Additionally, it depends on self-reported data, which could be skewed by perception bias and subjectivity. Additionally, the study concentrates on perceived efficacy and competency rather than actual student outcomes or classroom performance, and its findings might change if AI technologies continue to advance quickly.

V. CONCLUSION

The results indicate that teachers are generally competent in using AI tools, with stronger performance in practical applications like editing AI outputs and preparing instructional materials, but lower competence in deeper integration into lesson planning and sustained classroom use. AI tools are perceived as highly effective in lesson preparation and moderately effective in classroom engagement, assessment, and feedback; capacity-building activities, especially hands-on demonstrations, peer coaching, and instructional resources, are seen as important in strengthening teachers' competence and confidence. Nevertheless, obstacles like time constraints, limited training, unfamiliarity with AI tools, and technical and resource issues continue to impede full integration. AI tools are thought to be fairly successful for classroom participation, evaluation, and feedback, and extremely effective for lesson planning. Teachers' competence and confidence are seen to be strengthened by capacity-building activities, especially practical demonstrations, peer coaching, and instructional tools. However, obstacles including time restraints, inadequate training, lack of experience with AI technologies, and resource and technological problems still prevent complete integration.

Instructional guides should be contextualized to align AI use with curriculum goals and classroom realities. Future research may further examine the long-term effects of AI integration on student learning outcomes, teacher workload, and digital readiness across various educational contexts. Schools should implement structured and continuous AI training programs that emphasize practical classroom application to improve teachers' confidence and integration of AI in instruction. Regular hands-on workshops, mentoring systems, and peer collaboration should be strengthened to support sustained skill development. The need for ongoing skill development should be supported by regular practical workshops, mentoring programs, and peer cooperation.

In order to overcome obstacles pertaining to time, access, and system dependability, schools also need to offer sufficient technology infrastructure and technical assistance. To match AI use with curriculum objectives and classroom reality, instructional guidelines should be contextualized.

The long-term impacts of AI integration on student learning results, teacher workload, and digital readiness in various educational environments may be further investigated in future studies.

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