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AI Technology Training to Enhance English Language Teaching for English Teachers

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Abstract

The rapid development of artificial intelligence (AI) has introduced new possibilities in education, particularly in English Language Teaching (ELT). This paper presents the outcomes of an AI-focused training program designed for English teachers at the elementary, junior high, and senior high school levels in Bitung City. The program aimed to enhance teachers' understanding and practical ability in incorporating AI tools into both instructional and administrative tasks. This was a pilot program that involved 30 English teachers. The training employed the Asset-Based Community Development (ABCD) approach, which consisted of three key stages: (1) Identification of Community Potential and Strengths; (2) Development of the Assistance Program; and (3) Implementation of the Assistance Program. The findings indicate a notable improvement in the teachers' ability to utilize platforms such as ChatGPT, Gemini, and Wordwall, along with a boost in their confidence in adopting technology. Nonetheless, challenges such as inadequate infrastructure and limited post-training support remain significant obstacles. The study underscores the importance of ongoing and adaptable professional development to ensure the effective integration of AI into educational practices.

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INTRODUCTION

In recent years, the utilization of artificial intelligence (AI) technology has shown a growing trend in education (Chou et al., 2022). AI is generally understood as a computer-based system designed to simulate human intelligence, thinking patterns, and actions (Lin, 2022). The emergence of various AI-based technologies presents significant new opportunities to enhance the learning process, particularly in English language education. This is especially relevant in the post-COVID-19 era, where online learning through various digital platforms has become a common practice among educators and students worldwide. The emergence of AI-powered tools such as ChatGPT has significantly influenced recent developments in the English language instructions (Moorhouse, 2023). English language instructors now have the opportunity to adopt AI in their instructional

activities, as this technology offers various advantages. For instance, AI-based applications can assist students in learning languages and practicing speaking skills regularly (Huang et al., 2025) and enhance their motivation to learn languages (Kohnken, 2023).

Artificial Intelligence (AI) has the potential to significantly support students, including those with learning disabilities, by helping them reach their full potential. In terms of emotional development, AI-powered learning environments can create a pleasant and comfortable atmosphere that enhances self-confidence, reduces anxiety, and contributes positively to learning outcomes, making the effectiveness of AI-based language learning media an important topic in modern education (Tambak, 2023). Beyond student development, AI technology also assists teachers in enhancing the effectiveness of their teaching. Through advanced data analysis, it enables educators to identify learning patterns, recognize individual student needs, and adjust their teaching methods more efficiently, while also offering suggestions and recommendations to refine instructional strategies (Rusmiyanto et.al, 2023). By adopting AI-based learning concepts, schools can foster more relevant, interactive, and globally aligned learning experiences (Iriyani et al., 2023). Ultimately, integrating AI into education supports increased efficiency, personalized learning, effective feedback, and improved teaching effectiveness, thereby better preparing students for a world increasingly driven by technology. Therefore, the use of AI technology in teaching is essential for enhancing both educational quality and student learning outcomes.

Recent studies have revealed that various artificial intelligence (AI) tools have had a significant impact on education, particularly in creating personalized learning experiences tailored to individual student needs (Nugroho et al., 2025). Technologies such as ChatGPT have proven effective in assisting teachers with lesson material development, instructional planning, and providing real-time feedback to students (Purwatiningsih & Asri, 2025). Moreover, the use of AI for administrative tasks such as assessment and student management has helped reduce the administrative burden on teachers, allowing them to focus more on the teaching process (Rosita & Tamimi, 2024). In addition, AI is increasingly being applied to support character education, especially at early childhood levels, complementing traditional methods by offering a more engaging, interactive, and personalized learning environment (Rudjiono, Hadi et al., 2023). Tools like ChatGPT contribute significantly to the creation of innovative educational content, making learning more enjoyable and accessible, particularly in language and STEM subjects.

Nevertheless, a critical issue that arises is the extent to which educators, especially English teachers, are aware of AI's existence and their readiness to integrate and optimize it in instructional practices. Based on a preliminary survey conducted before the training, fewer than 10% of the 30 English teachers in Bitung City had used AI in their teaching practices. This is quite unfortunate, considering that AI has the potential to assist teachers in their work and enhance their digital literacy skills. This essential competency should also be passed on to students. Moreover, field observations indicate that systematic efforts to introduce teachers to a range of AI technologies and their potential in supporting English teaching remain quite limited.

Responding to this urgent need, the English teachers of SD/RA, SMP/MTs, and SMA/MA level in Bitung City, in collaboration with the English Education Department of the Faculty of Tarbiyah and Teacher Training at IAIN Manado, recognize the importance of enhancing teachers' capacity through AI technology training. This program is intended to provide teachers with access to information and a deeper understanding of how AI can be utilized in English language learning activities within their classrooms and schools. Furthermore, the implementation of this technology is expected to help address

various challenges students face during the learning process and support the achievement of the instructional goals set for each learning topic.

As a form of joint commitment to strengthening teacher competence in the digital era, the English teachers in Bitung City and the English Education Department at IAIN Manado have agreed to organize a community service program (PkM) in the form of AI technology training for English teachers in the region. This program also represents a tangible contribution from the academic community in supporting the transformation of technology-integrated learning in schools.

METHODS

The community service activity (PkM) was carried out under the theme "How to Use AI in the ELT Classroom?" and was conducted on Tuesday, November 30, 2024, from 10:00 AM to 2:00 PM (WIB) at the Auditorium of SMP Muhammadiyah Bitung. The participants consisted of 30 English teachers from SD/MI, SMP/MTs, and SMA/MA across Bitung City, North Sulawesi. This program was conducted with formal permission from the principal of SMP Muhammadiyah Bitung and with the consent of all participating teachers. This PkM initiative was structured following the Asset-Based Community Development (ABCD) method and consisted of (1) Identification of Community Potential and Strengths; (2) Development of the Assistance Program; and (3) Implementation of the Assistance Program.

(1) Identification of Community Potential and Strengths

The initial stage of the program focused on identifying the existing assets, capacities, and professional development needs of English teachers in Bitung City. This was carried out through informal interviews and focused group discussions involving local English teachers at various educational levels. The process aimed to understand their current familiarity with educational technology, particularly with artificial intelligence (AI), and their motivation to improve teaching practices. The insights gained from this stage formed the foundation for designing a targeted, contextually relevant training program that aligns with teachers' interests, technological readiness, and professional aspirations.

(2) Development of the Assistance Program

Based on the results of the initial identification, a structured training program was developed to enhance the teachers' capacity to integrate Artificial Intelligence (AI) tools into English language teaching. The program was carefully designed to address the specific needs, challenges, and digital literacy levels of the participating teachers. It included modules on the theoretical foundations of AI in education, practical applications of AI-powered tools (such as automated feedback, content generation, and interactive learning platforms), and strategies for incorporating AI into daily classroom practices. The program emphasized hands-on learning and reflective practice to ensure teachers could directly apply the knowledge they acquired in their teaching contexts.

(3) Implementation of the Assistance Program

The training program was implemented through a series of interactive workshops and collaborative learning sessions facilitated by the university’s community service team. English teachers from elementary, junior, and senior high schools actively participated in various activities, including tutorials, demonstrations, and group discussions. Participants were introduced to a range of AI tools relevant to English Language Teaching (ELT), such as ChatGPT, Gemini, and Wordwall applications. Throughout the program, teachers were encouraged to experiment with these tools, share their experiences, and discuss

potential classroom applications. The participatory approach adopted during the implementation phase helped foster professional growth, peer learning, and increased confidence in utilizing AI for instructional improvement. In the implementation of the program, four core sessions were applied; (1) administering a pre-test to assess participants' prior understanding of the use of AI in teaching. (2) a general overview of AI, including how AI systems operate and their potential applications in English language teaching; (3) a hands-on introduction and live demonstration of various AI technologies in collaboration with the participants; and (4) an interactive Q&A session facilitated by the author. These sessions were delivered bilingually, in both Indonesian and English, by the PkM team to ensure the content and instructions were clearly understood by all training participants. At the conclusion of the sessions, participants were asked to complete a Google Form evaluation to provide feedback on the materials presented. The evaluation form included open-ended responses to assess perceived usefulness, clarity of materials, and confidence in using AI tools post-training.

RESULTS AND DISCUSSION

The community service program (PkM) was successfully implemented as planned, with the active participation of 30 English teachers in Bitung City. The program's outcomes indicated a marked improvement in teachers' understanding and skills in integrating artificial intelligence (AI) into English language teaching.

Pre-Test and Post-Test Results

The pre-test and post-test questions and the number of correct answers are listed in Table 1.

Table 1 Pre-test and post-test questions along with the number of correct responses

No	Questions	Number of Correct Responses	
		Pre-test	Post-test
1.	What is Artificial Intelligence (AI)?	8	22
2.	Mention two AI applications that can be used in English language learning.	12	18
3.	How can AI tools be used for grammar correction?	6	24
4.	What are the benefits of using AI chatbots in speaking practice?	5	25
5.	What are the challenges of using AI in education?	6	24
6.	How can interactive learning materials be created using AI platforms?	4	26
7.	Mention the steps for integrating AI into the learning process.	7	23

The evaluation using pre- and post-tests demonstrated a significant increase in participants' knowledge and skills related to the use of AI in the classroom. The average pre-test score was 50%, reflecting a limited foundational understanding of AI technology and its applications. Following the training sessions, the average post-test score rose to 80% (see Figure 1), indicating the program's effectiveness in enhancing participants' competence in incorporating AI tools into English-language instruction.

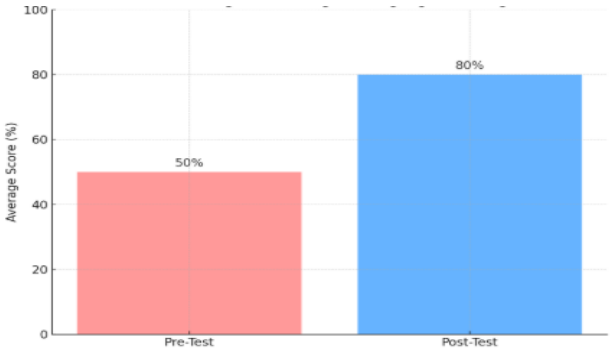

Figure 1 The result of the pre-test and post-test

Interactive Discussion

During the lecture and discussion sessions, the participants showed great enthusiasm for the topics presented, particularly regarding the use of AI-based tools such as ChatGPT and Gemini, as well as other interactive learning applications. The discussion was dynamic, allowing participants to exchange experiences regarding the challenges they faced in implementing technology, such as limited technological infrastructure in schools and the lack of time to learn new tools (as seen in Figure 2).

Figure 2 Interactive discussion with the participants

Despite these obstacles, the discussion also served as a platform for participants to discover practical solutions and gain motivation to begin adopting the technology. The use of technology-based learning media opens up new opportunities to create more innovative and relevant learning experiences for students as they face the challenges and opportunities of today's digital era.

Demonstration and Hands-On Practice

The demonstration and hands-on sessions provided participants with real-life experience in using AI-based applications. Teachers were allowed to try various AI tools and explore how to integrate them into English language instruction (see Figure 3). The first activity involved using ChatGPT to create lesson plans and provide examples of interactive texts. In this session, teachers learned how to use ChatGPT as an assistant in designing lesson plans. They experimented with generating topic ideas, outlining instructional content, and producing interactive and relevant texts for English classes. ChatGPT helped streamline the planning process and offered diverse teaching approaches.

Second, the teachers were explained about utilizing Gemini to analyze students' learning outcomes and offer more targeted feedback. Teachers utilized Gemini to assess

students' work. This technology allowed them to identify students' specific learning gaps and provide constructive feedback. As a result, the assessment process became more personalized and directly contributed to student improvement.

Furthermore, the third activity was designing creative learning games through Wordwall to improve vocabulary acquisition. Through Wordwall, participants created various types of educational games. These games were designed to strengthen students' vocabulary through fun and interactive activities. Teachers found this tool effective in boosting student engagement and motivation to learn new words. And the last was developing digital flashcards and interactive quizzes with Quizlet to foster autonomous learning. The teachers also learned how to use Quizlet to create digital flashcards and interactive quizzes that students could access independently. The materials could be tailored to the specific topics being studied, allowing students to continue learning outside the classroom at their own pace.

The sessions led to an increase in participants' confidence and motivation to implement AI tools in their teaching. Many teachers expressed a newfound enthusiasm for integrating technology into their instructional practices. One participant stated, "I now understand how to use AI to help students practice speaking more actively and improve their writing." This statement reflects a broader sentiment shared by several attendees. The hands-on experience allowed them to visualize how AI could be applied effectively in real classroom scenarios. This feedback indicates that the practical experience was highly impactful in preparing teachers to embrace digital learning in the classroom. It also suggests that with continued support and training, educators can confidently transition into tech-enhanced teaching environments.

Sharing Session

The session continued with a Q&A segment, which allowed participants to seek clarification and engage more deeply with the material. Many teachers asked practical questions about how to start integrating AI tools into their current curriculum, particularly in schools with limited resources. Some participants were curious about the ethical implications of using AI in the classroom, such as academic integrity and student data privacy.

The facilitator addressed these concerns by providing clear, actionable strategies and emphasizing the importance of gradual implementation. Several participants also shared their own innovative ideas and received constructive feedback from both the facilitator and their peers. This interactive exchange not only enriched the learning experience but also fostered a sense of community among educators committed to improving their teaching through technology. At the end of the program, all participants received certificates of appreciation from the community service team.

The outcomes of this activity highlight the significance of AI-based technology training for teachers to support 21st-century learning. The integration of AI tools enables educators to design learning experiences that are more adaptive, engaging, and aligned with students' current needs. This is particularly important within the context of Indonesian education, which continues striving to improve instructional quality and standards (Talenta, et al, 2024). While the results were promising, certain challenges remain. Limited internet access in several schools has emerged as a key barrier to the effective use of AI in teaching, potentially hindering the full realization of its benefits. Additionally, there is a clear need for sustained support to assist teachers in overcoming technical difficulties and to maintain their motivation in adopting new technologies consistently. To address these challenges, it is recommended that follow-up programs be implemented, including intensive training, the development of tech-based teacher learning communities, and the provision of adequate infrastructure. Overall, this

community service initiative successfully achieved its goal of enhancing the professional competencies of English teachers at the SD/MI, SMP/MTs, and SMA/MA levels in Bitung City, while also contributing positively to the quality of technology-integrated English instruction.

The number of correct responses in the post-test increased significantly across all items, indicating that the training effectively enhanced participants' knowledge and skills in utilizing AI in English language teaching. While participants initially demonstrated limited understanding regarding the practical application of AI, the training enabled them to identify a range of AI-based tools, such as ChatGPT, Gemini, and the Wordwall application, and comprehend how to apply these tools meaningfully in classroom settings.

The improvement in post-test results reflects the effectiveness of the training in expanding both participants' conceptual understanding and practical competencies. This suggests that the teachers not only gained theoretical insights into AI but also translated this knowledge into real classroom practice. The success of this training underscores the importance of delivering relevant content and leveraging current technological advancements to enhance the quality of teaching and learning in schools.

CONCLUSION

The training on optimizing the use of AI in English language teaching successfully enhanced participants' knowledge and skills in employing AI technologies to support the learning process. Participants demonstrated significant improvement in their understanding of AI applications that can improve the quality of English instruction, such as grammar correction tools and speaking practice applications. The training proved to be effective in introducing and integrating artificial intelligence into more interactive and modern teaching practices. Moreover, the training served as a platform to promote innovation in teaching by encouraging participants to shift from conventional methods toward more interactive and technology-supported practices. By integrating AI tools, teachers are now better equipped to meet students' diverse learning needs and create more engaging classroom environments. The overall response from participants showed a strong willingness to continue exploring AI in their teaching, highlighting the program's effectiveness in fostering both competence and confidence in using digital solutions. To build on the success of this training, it is recommended that follow-up sessions or continuous professional development programs be provided to ensure sustained implementation of AI tools in classrooms. Additionally, efforts should be made to improve infrastructure and access to technology, especially in under-resourced schools. Collaborative communities of practice among teachers should also be encouraged, allowing them to share experiences, challenges, and strategies for integrating AI in English language instruction more effectively.

CONFLICTS OF INTEREST

The authors declare that there is no conflict of interest.

AUTHOR CONTRIBUTIONS STATEMENT

Conceptualization, IWS and NH; methodology, IWS and NH; formal analysis, IWS and NH; writing—preparation of the original draft, IWS; editing, WYA, MAL, and SNL.

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