

Exploring Teachers' Perceptions and Implementation of AI in English Language Teaching

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ABSTRACT

The integration of Artificial Intelligence (AI) in education has gained considerable attention for its potential to enhance teaching and learning experiences. This study examines the perceptions and practices of English teachers in Samarinda, East Kalimantan, regarding AI integration in English language teaching. Data were collected from 145 English teachers across public and private secondary schools using a structured questionnaire covering demographic information, perceptions of AI, and current AI integration practices. The findings indicate that most teachers hold a positive outlook on AI, with 65% recognizing its potential benefits, such as improving student engagement and personalized learning. However, challenges remain, as 55% of respondents expressed concerns about the complexity of AI tools, while 45% feared potential job displacement. Although 58% of teachers reported using AI tools, only 20% fully integrated AI into their daily teaching routines. Further analysis highlights that demographic factor, such as teaching experience and prior AI training, significantly influence teachers' readiness to adopt AI. Teachers with more experience and relevant training exhibited greater confidence and a higher tendency to integrate AI tools effectively. These findings emphasize the need for targeted professional development programs to support AI adoption in English language teaching.

Keywords: AI in Education; English teachers; Samarinda

INTRODUCTION

The rapid development of Artificial Intelligence (AI) has transformed education, particularly in English Language Teaching (ELT), by introducing intelligent tutoring systems, automated grading, chatbots, and speech recognition technologies. These AI-driven tools provide personalized learning experiences, automate repetitive tasks, and offer real-time feedback, allowing teachers to focus more on interactive and communicative aspects of language learning (Rusmiyanto et al., 2023). AI has also enhanced student engagement by adapting to individual learning styles and providing tailored instructional content. However, while AI offers numerous advantages, its successful integration largely depends on teachers' perceptions, readiness, and instructional practices. Their acceptance and

willingness to use AI significantly influence how effectively these technologies can be implemented in ELT classrooms (Ertmer & Ottenbreit-Leftwich, 2010).

Despite AI's potential to enhance teaching efficiency and improve learning outcomes, its adoption in ELT faces several challenges. Teachers may encounter technical difficulties, a lack of institutional support, insufficient training, and ethical concerns regarding student data privacy and AI-driven assessment fairness (Holmes et al., 2019). Many educators remain uncertain about how to integrate AI effectively into their lesson plans, fearing that AI tools may replace their traditional teaching roles rather than complement them. Additionally, the cost and accessibility of AI-powered educational tools pose further barriers, particularly in resource-limited schools. Addressing these challenges requires comprehensive professional development programs that provide teachers with the necessary skills, knowledge, and confidence to integrate AI seamlessly into their teaching practices (Zawacki-Richter et al., 2020).

Given these opportunities and challenges, it is essential to understand teachers' perceptions and practices regarding AI in ELT. This study explores how English teachers in Samarinda, East Kalimantan, view AI integration, the extent to which they incorporate AI tools in their teaching, and the factors influencing their adoption. The findings will provide valuable insights for educators, policymakers, and AI developers, helping to design more effective AI-based educational tools, improve teacher training programs, and support the integration of AI in English language instruction (UNESCO, 2021). By bridging the gap between AI technology and classroom practices, this research aims to contribute to the development of more efficient, accessible, and teacher-friendly AI solutions that can enhance ELT and benefit both educators and learners.

LITERATURE REVIEW

Artificial Intelligence (AI) is revolutionizing education by enhancing personalized learning, tutoring, administrative efficiency, and gamification. AI-driven technologies provide adaptive learning experiences, automate grading, and offer interactive platforms that cater to individual student needs. However, challenges such as privacy concerns, data security, and algorithmic bias remain critical issues that need to be addressed to ensure AI benefits all learners (Holmes et al., 2019; UNESCO, 2021). Ethical considerations and regulatory compliance play a crucial role in the responsible implementation of AI in education, ensuring fairness, inclusivity, and transparency (Zawacki-Richter et al., 2020).

In language education, AI has been widely adopted for personalized feedback, automated assessments, and interactive learning tools (Murphy, 2019; Chounta et al., 2022; Lund & Wang, 2023). AI-powered chatbots and digital learning platforms enhance student engagement and motivation, leading to improved learning outcomes (Ali et al., 2023; Munoz et al., 2023). However, educators' perceptions of AI in language teaching remain mixed, as some view it as a valuable

complementary tool, while others are concerned about its potential to replace traditional teaching roles (Kasneji et al., 2023). Historically, language instruction has depended on skilled educators who provide tailored guidance and interpersonal interaction. While AI can enhance teaching strategies, its success relies on teachers' ability to integrate these technologies effectively (Harmer, 2021; Afrianto, 2018; Erstad, 2015). The evolving landscape of education demands continuous innovation and professional development to help teachers navigate and adapt to AI-powered learning environments.

Teachers' Perceptions of AI

Teachers hold diverse perspectives on the role of AI in education. While some recognize its potential to streamline administrative tasks, support personalized learning, and enhance student engagement, others remain skeptical due to concerns about job security, lack of technical knowledge, and the fear of AI replacing traditional teaching roles (Prensky, 2008; Kaban & Ergul, 2020). The portrayal of AI in media and science fiction has further contributed to anxieties about automation in education (Luckin et al., 2016; Panigrahi, 2020). Despite these concerns, many educators acknowledge that AI can serve as a valuable tool for improving instructional quality and reducing teachers' workload (Jia et al., 2020; Qin et al., 2020). However, the successful integration of AI requires comprehensive teacher training and a shift in perception. Many teachers still view AI as an extension of existing educational technologies rather than a transformative tool (Gilakjani et al., 2013; Ryu & Han, 2018). To maximize AI's potential in education, teachers must actively engage with AI-driven tools, explore their capabilities, and integrate them into pedagogical practices effectively.

Previous Studies on AI Integration in Education

Research on teachers' perceptions and adoption of AI in education remains limited, though emerging studies indicate a growing openness among educators toward AI-enhanced teaching methods. Surveys conducted in various countries suggest that many teachers view AI as a useful tool for addressing instructional challenges and enhancing teaching quality, despite having limited knowledge or formal training in AI-based technologies (Chounta & Bardone, 2022). Educators increasingly recognize AI's potential in supporting classroom activities, fostering interactive learning, and facilitating problem-based instruction (H-J Han, 2020). However, research also highlights persistent fears and skepticism regarding AI implementation, particularly in higher education. Many teachers feel unprepared to integrate AI due to insufficient training, unfamiliarity with AI-driven tools, and uncertainty about AI's role in pedagogy. According to Jian (2020), teachers' willingness to adopt AI-based educational tools depends on several factors, including their teaching experience, exposure to technology, and beliefs about AI's effectiveness in the classroom. These findings underscore the need for targeted professional development programs, institutional support, and clear guidelines on

AI integration to ensure that educators can confidently and effectively incorporate AI into their teaching practices.

METHOD

Design and Sample

This study employed a mixed-methods research design, integrating both quantitative and qualitative approaches to provide a comprehensive understanding of English teachers' perceptions and practices regarding AI integration in language teaching. The quantitative component consisted of a structured survey to gather broad-based data, while the qualitative component involved semi-structured interviews to gain deeper insights into teachers' individual experiences and attitudes toward AI. The population for this study comprised English teachers from public and private secondary schools in Samarinda, East Kalimantan, Indonesia. As of 2024, approximately 200 English teachers were actively teaching in these institutions, representing diverse backgrounds in terms of teaching experience, educational qualifications, and familiarity with AI-based tools. To ensure a representative sample, the study employed a stratified random sampling method, considering factors such as school type (public or private) and teaching experience (novice, intermediate, and experienced teachers). Following Krejcie and Morgan's (1970) sample size determination table, a total of 145 participants were selected, ensuring statistical significance and capturing a wide range of perspectives on AI adoption in English language teaching.

Instrument and Procedures

A structured questionnaire was developed and distributed to the selected sample of English teachers in Samarinda. The questionnaire was designed to assess teachers' perceptions, practices, and challenges in integrating AI into teaching. It consisted of closed-ended and Likert-scale questions, organized into three key sections:

1. Demographic Information – This section collected data on age, gender, teaching experience, school type, educational background, and AI-related training to analyze trends across different teacher profiles.
2. Perceptions of AI – This section explored teachers' attitudes towards AI, perceived benefits (e.g., personalized learning), concerns (e.g., job displacement), and readiness to adopt AI in education.
3. Current AI Practices – This section examined the types of AI tools used, their applications in lesson planning, assessment methods, classroom activities, and the extent of AI integration in teaching.

To complement the survey data, semi-structured interviews were conducted with a purposive sub-sample of five teachers. Participants were selected to represent both public and private school educators with varying levels of AI experience. The flexible interview format allowed for detailed discussions on AI usage, challenges, benefits, training needs, and future expectations. This qualitative component helped

capture nuanced perspectives that the quantitative survey might not fully reveal, enhancing the depth and validity of the study's findings.

Data Analysis

Survey responses were analyzed using descriptive statistics, which summarized demographic information, teachers' perceptions of AI, and their reported AI integration practices. The statistical analysis provided insights into prevalent trends, levels of AI adoption, and key concerns among teachers. The interview data were transcribed verbatim and analyzed using thematic analysis. This process involved coding responses to identify key themes and patterns related to teachers' experiences, challenges, and attitudes toward AI integration. The qualitative findings provided rich contextual understanding, complementing the quantitative survey results and ensuring a comprehensive interpretation of the data.

RESULT AND DISCUSSION

The study's quantitative analysis provides insights into English teachers' demographic profiles, perceptions of AI integration, and current AI usage in English language teaching (ELT).

Demographic Profile of Respondents

The sample consisted of 145 English teachers from both public and private secondary schools in Samarinda, East Kalimantan. The majority of participants (35%) were aged 31–40 years, followed by 41–50 years (30%), 20–30 years (25%), and those above 50 years (10%). Female teachers (60%) outnumbered male teachers (40%) in the sample. Regarding teaching experience, most teachers had 11–20 years of experience (35%), followed by those with 5–10 years (30%), less than five years (20%), and over 20 years (15%). Additionally, 55% of respondents were from public schools, while 45% were from private institutions. In terms of education level, 50% held a master's degree, 40% had a bachelor's degree, and 10% had a doctorate.

Teachers' Perceptions of AI Integration

The study found that 65% of teachers had a positive perception of AI, citing benefits such as enhanced student engagement, personalized learning experiences, and increased efficiency in administrative tasks. Meanwhile, 20% held a neutral stance, acknowledging AI's potential but expressing concerns over insufficient training and resources. The remaining 15% had negative perceptions, with fears of job displacement, ethical concerns, and the complexity of AI tools affecting their willingness to adopt AI in ELT.

Current Use of AI in ELT

Regarding AI usage, 55% of teachers reported using AI tools regularly, while 30% used them occasionally, and 15% rarely or never incorporated AI into their teaching. The most commonly used AI tools included language learning apps (e.g., Duolingo), automated grading systems (e.g., Grammarly), and chatbots (e.g., Replika) for student interaction. AI tools were primarily used for personalized learning (40%), followed by administrative tasks (30%), student engagement (20%), and professional development & curriculum planning (10%).

Qualitative Findings

The qualitative analysis, based on semi-structured interviews with five teachers, provided deeper insights into teachers' experiences, concerns, and successes in AI integration.

Teachers' Perceptions of AI Integration

Many teachers recognized AI's ability to enhance learning experiences by creating interactive and engaging classroom environments. One teacher shared, "AI applications can tailor lessons to individual student needs, making learning more effective." However, concerns about training and resources were frequently mentioned, with one teacher stating, "Without proper training, it's challenging to utilize AI tools to their full potential." Ethical and practical concerns also emerged, with teachers worried about data privacy and AI potentially replacing human educators. A participant expressed, "While AI can be a great assistant, it should not replace the human touch in education."

Current Use of AI in ELT

Teachers reported various implementations of AI tools in their classrooms. One participant highlighted the use of AI chatbots for instant feedback on assignments, stating that it helped save time and provide immediate responses. However, barriers to AI adoption remain, including limited access to technology, lack of technical support, and resistance to change. A teacher emphasized, "The biggest challenge is getting everyone on board and ensuring that we have the necessary infrastructure." Despite these challenges, success stories were evident. Teachers noted that AI tools significantly improved student engagement and motivation, particularly through language learning apps that provided gamified and interactive learning experiences. One participant shared that "Using AI applications increased students' interest in language learning and improved their performance."

The findings of this study reveal that while English teachers in Samarinda generally have positive perceptions of AI integration, challenges such as insufficient training, ethical concerns, and infrastructure limitations continue to hinder full adoption. These findings align with previous research on AI adoption in education but also

present new insights specific to the context of English language teaching in Indonesian secondary schools.

This study found that 65% of teachers viewed AI positively, recognizing its potential to enhance student engagement, personalize learning, and improve administrative efficiency. These findings are consistent with research by Chounta et al. (2022), which reported that teachers acknowledge AI's ability to automate routine tasks, freeing up time for more interactive instruction. Similarly, Ali et al. (2023) found that AI-based platforms significantly improve student motivation and participation in language learning.

However, the 20% of teachers with neutral perceptions and 15% with negative perceptions reflect a persistent skepticism toward AI adoption, similar to findings by Kasneci et al. (2023), who noted that concerns about job displacement, ethical risks, and lack of training create resistance among educators. This study adds to the literature by highlighting that in the Indonesian context, teachers' reluctance is not solely due to fear of AI replacing their roles but also the lack of institutional support and structured AI training programs.

The findings indicate that 55% of teachers use AI tools regularly, a trend comparable to Jia et al. (2020), who found that AI adoption among teachers correlates with the availability of user-friendly AI tools and teachers' digital literacy skills. The most frequently used AI applications—language learning apps, automated grading systems, and chatbots—are similar to those identified in Munoz et al. (2023), who found that AI-driven applications like Grammarly, Replika, and Duolingo positively impact language learning outcomes by providing immediate feedback and interactive learning experiences.

Despite this, 30% of teachers use AI occasionally, and 15% rarely or never use it, which raises concerns about unequal AI adoption rates across schools. This discrepancy is supported by Qin et al. (2020), who noted that AI implementation varies significantly depending on school funding, technological infrastructure, and teacher training opportunities. In this study, teachers reported that limited access to AI tools, insufficient technical support, and a lack of integration policies hinder their ability to incorporate AI into daily teaching practices.

The study found that AI is primarily used for personalized learning (40%), followed by administrative tasks (30%), student engagement (20%), and professional development (10%). This supports research by Han (2020), which emphasized AI's capacity to provide individualized learning pathways, adapting to students' needs and improving overall engagement. However, while AI's benefits are recognized, this study highlights that teachers feel unprepared to use AI effectively due to a lack of professional development opportunities, a concern echoed by Ryu & Han (2018).

Additionally, teachers raised concerns about data privacy, ethical implications, and the dehumanization of education, findings consistent with Holmes et al. (2019) and

Panigrahi (2020). However, a new contribution from this study is that teachers in this context view AI as a supplementary tool rather than a potential replacement for human educators. Unlike in Western contexts, where fears of AI replacing teachers are more pronounced (Luckin et al., 2016), the primary concern in this study was ensuring AI tools complement traditional teaching rather than overshadow the human interaction aspect of education.

The findings suggest that for AI to be successfully integrated into English language teaching, targeted interventions are necessary. First, professional development programs focusing on AI literacy and practical applications should be implemented to build teacher confidence and competence in using AI tools (Zawacki-Richter et al., 2020). Second, schools must provide adequate infrastructure and technical support to ensure AI accessibility for all teachers. Finally, clear ethical guidelines and policies should be established to address concerns regarding data privacy, AI bias, and ethical implications. This study contributes to the growing body of literature on AI integration in education by providing insights specific to English language teaching in secondary schools in Indonesia. Future research should explore longitudinal studies on AI adoption trends, the impact of AI training programs, and cross-regional comparisons to better understand the global challenges and opportunities in AI-enhanced education.

CONCLUSION

This study provides valuable insights into English language teachers' perceptions and practices regarding AI integration in their teaching. The findings indicate that while the majority of teachers hold positive attitudes toward AI, recognizing its potential to enhance student engagement, personalize learning, and improve administrative efficiency, significant challenges remain. Issues such as insufficient training, limited resources, and ethical concerns continue to hinder full AI adoption in English language teaching. To maximize the benefits of AI, targeted professional development programs, increased institutional support, and clear ethical guidelines are essential. Encouraging regular AI usage through structured training, access to technological resources, and fostering a culture of innovation can help teachers integrate AI more effectively into their instructional practices. Additionally, balancing AI technology with human interaction is crucial to ensuring that AI serves as a supportive tool rather than a replacement for traditional teaching methods. By addressing these challenges, the education sector can harness AI's full potential to create more efficient, personalized, and engaging learning experiences. Ensuring that teachers are equipped with the necessary skills and support systems will ultimately lead to improved educational outcomes and a more effective AI-integrated teaching environment.

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