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Teachers' Perspectives on Using AI in Teaching English at High Schools in Jombang

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A B S T R A C T
This study examines high school teachers' perspectives on using Artificial Intelligence (AI) in teaching English in Jombang, East Java. Employing a mixed-method approach, it involves surveys of 42 participants (2 teachers and 40 students) and interviews with 4 teachers and 4 students. The findings show that AI is seen as an effective tool for enhancing English learning, with most participants expressing positive attitudes. Younger teachers demonstrate higher readiness to adopt AI, though challenges like limited technology access and insufficient training persist. The study emphasizes AI's transformative potential in English education, highlighting the importance of professional development and addressing practical barriers to maximize its benefits in teaching methodologies and student engagement.

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INTRODUCTION

The integration of technology has become increasingly significant in education, particularly in language teaching. In today's digital era, technology has the potential to transform how languages are taught and learned (Huang et al., 2023). Among these advancements, Artificial Intelligence (AI) has emerged as a powerful tool with the potential to revolutionize language education. By leveraging AI, educational technology (Edu-tech) applications have introduced innovative teaching modalities, addressing challenges such as managing large classes and providing personalized learning experiences.

Edu-tech applications equipped with AI offer students tailored educational content based on their individual learning styles, creating a conducive learning environment that enhances language skills and critical thinking (Liang et al., 2023). These applications also feature real-time evaluation

and feedback systems, replacing traditional assessment methods. With instant feedback, students can immediately identify areas for improvement, while teachers gain better insights into student progress, thereby improving classroom learning outcomes.

Moreover, AI-powered tools promote interaction and collaboration between students and teachers. Features such as chat rooms and discussion boards foster meaningful communication, teamwork, and a sense of community, which are essential in a globalized world (Pikhart, 2020). By providing personalized learning opportunities and promoting global citizenship, AI equips students with skills necessary for navigating the linguistic and cultural diversity of the 21st century.

In Jombang, AI integration into English teaching is still in its infancy. The district, which has approximately 675 public and private high schools, faces significant challenges in adopting advanced technologies. Only 20% of these schools have adequate ICT infrastructure, and just 10% can consistently manage internet-related expenses. Consequently, many English teachers remain hesitant to adopt AI in their teaching practices. Despite these limitations, fostering teachers' creativity and willingness to embrace AI is crucial. Support from the government and other stakeholders is also necessary to promote the inclusion of AI in the English language curriculum.

This study explores teachers' perspectives on using AI in teaching English at high schools in Jombang. It investigates the opportunities and challenges they face when adopting AI, focusing on its effectiveness in enhancing student engagement and addressing instructional challenges in large classes. The study aims to provide valuable insights into the barriers to AI integration and the factors that can facilitate its successful adoption in Jombang's educational context. Data were collected from three high schools, involving 66 English teachers, to capture their experiences and views on integrating AI into English teaching.

LITERATURE REVIEW

The integration of artificial intelligence (AI) into education has garnered widespread attention among scholars and educators, reflecting its expanding role in 21st-century learning environments (Ningsih et al., 2024). AI technologies are increasingly recognized for their potential to transform various aspects of education, particularly in language teaching. The use of AI in this domain has become a focal point of research, aiming to address instructional challenges and enhance learning outcomes.

Recent studies (e.g., Sukma et al., 2024; Yulianto et al., 2023) have highlighted the advantages and disadvantages of utilizing AI tools in language education. These studies underscore the potential of AI to provide personalized learning experiences, real-time feedback, and interactive language practice, while also noting challenges such as technical issues and teacher readiness (Khalizah & Damanik, 2024). However, despite the growing body of research, there is a notable gap in studies focusing on the use of AI for teaching English in high schools, particularly in the Jombang Regency.

This research gap highlights the need for an empirical exploration of teachers' perspectives on integrating AI into English instruction at high schools in Jombang. While previous studies have extensively examined the use of chatbots and other AI-driven tools in English as a second language (L2) classrooms, most of this research has been conducted in English-speaking countries or regions with advanced technological infrastructure (Balasubramaniam et al., 2024). Such studies often emphasize the pedagogical implications of AI tools, including chatbots, for improving language proficiency and engagement (Bhattacharya et al., 2024). However, the unique challenges faced by teachers in resource-limited settings, such as those in Jombang, remain underexplored.

The current study aims to fill this gap by examining the perspectives of English teachers in Jombang on using AI in their teaching practices. Teachers play a pivotal role in adopting and implementing new technologies in classrooms, and their views are crucial to understanding the practical challenges and opportunities of AI integration. By focusing on their experiences, this research seeks to identify factors influencing AI adoption, such as infrastructure limitations, training needs, and perceptions of AI's impact on teaching and learning.

Additionally, the study draws from global research trends that demonstrate the increasing commercial popularity and pedagogical potential of AI in language education (Govender, 2023; Kumar, 2023). These insights provide a theoretical foundation for examining the specific context of Jombang and the implications of AI for high school English teaching. By addressing the local challenges and opportunities, this research contributes to a more comprehensive understanding of AI's role in enhancing language education in diverse educational settings.

In summary, this study seeks to bridge the research gap by exploring teachers' perspectives on AI integration in Jombang high schools. It aims to provide actionable insights for educators, policymakers, and stakeholders to

support the effective adoption of AI in English teaching, ultimately enhancing the quality of education in the region.

METHODOLOGY

This study employs a mixed-method approach, combining both qualitative and quantitative methods, to explore teachers' perspectives on using AI in teaching English at high schools in Jombang. This approach allows for comprehensive data collection through surveys and interviews, aimed at identifying challenges, opportunities, and overall perceptions of AI integration in English teaching.

The survey questionnaire was designed to collect data on teachers' and students' attitudes toward the use of AI, focusing on its potential impact and key aspects of implementation. The survey results provide an overview of participants' perceptions. Subsequently, semi-structured interviews were conducted with selected participants to gain deeper insights into their experiences and the reasons behind their responses.

Participants were selected purposively, involving 42 individuals for the survey (2 English teachers and 40 students). For the interview phase, 4 participants (2 teachers and 2 students) were chosen randomly from the survey respondents to ensure diverse perspectives and in-depth feedback on AI use.

Quantitative data from the surveys were analyzed using descriptive statistics, such as frequency counts and measures of central tendency, to summarize teachers' and students' views on AI. Meanwhile, qualitative data from the interviews were transcribed and analyzed thematically. The thematic analysis followed three stages:

1. **Open coding** – Identifying initial codes and categorizing raw data into themes.
2. **Axial coding** – Relating categories to identify patterns and connections between themes.
3. **Selective coding** – Refining the themes into overarching narratives to address the research objectives.

Key themes identified included perceived benefits of AI, perceived challenges in its adoption, and perceived effectiveness in supporting English teaching and learning. The interview findings were triangulated with survey results to provide a richer, more nuanced understanding of teachers' perspectives.

This combination of quantitative and qualitative data ensures a well-rounded analysis of AI use in English teaching in Jombang, offering valuable recommendations for its integration into the educational system

RESEARCH RESULT

The results were derived from questionnaires distributed to students and high school teachers in Jombang, East Java, Indonesia, aimed at understanding their perspectives on using Artificial Intelligence (AI) in teaching English. The survey focused on factors such as participants' age, teaching experience, and familiarity with AI, as well as any differences in perceptions between teachers and students regarding AI implementation in English classrooms.

A total of 42 participants were involved in this study: 2 English teachers and 40 students from various high schools in Jombang. The responses from these participants provided valuable insights into their views on AI as a teaching tool.

The results of the questionnaire revealed a generally positive outlook on the use of AI in English education. A significant proportion of both students and teachers expressed that AI was an interesting and effective tool in the learning process. Specifically, 40 out of 42 participants (95%) agreed that AI could enhance the learning experience, with 34.1% of teachers and students rating AI as "effective" and 51.3% rating it as "very effective." Furthermore, all respondents (100%) agreed that AI had the potential to be useful in teaching English, with most participants highlighting its ability to make learning more interactive and engaging.

When considering the relationship between age, teaching experience, and AI use, the data indicated that younger participants, particularly teachers, showed a slightly stronger preference for AI in education. A correlation of 0.267 ($p = 0.013$) was found, suggesting that younger teachers were more inclined to view AI positively compared to their older counterparts. However, despite the general enthusiasm for AI tools, only 24.1% of participants believed that AI could replace human teachers. The majority (75.9%) disagreed with the idea that AI tools could fully replace English teachers, indicating that while AI is seen as a valuable tool, it is not viewed as a substitute for the expertise and interpersonal connection provided by human instructors.

These findings reflect two main conclusions:

1. **Positive Perception of AI in English Teaching**: Both students and teachers in Jombang see AI as a beneficial and engaging tool for teaching English.
2. **Skepticism Regarding AI Replacing Teachers**: While there is enthusiasm for AI, there remains a consensus that AI cannot replace human teachers, particularly in the context of language learning, where teacher-student interaction is key.

These insights provide a foundation for understanding the potential and limitations of AI in English teaching at high schools in Jombang.

The results can be summarized in Table 1 below.

Table 1. Summary of research results

Aspect	Students' Responses	Teachers' Responses	Overall Percentage	Key Insights
Positive Perception of AI	Most students find AI effective and engaging.	Teachers find AI effective, particularly younger ones.	95% agreed AI enhances learning.	AI is widely viewed as a valuable and effective tool for teaching and learning.
Effectiveness Rating	51.3% rated AI as "very effective"; 34.1% as "effective."	Similar distribution.	85.4% rated AI as effective/very effective.	High satisfaction with AI's ability to improve engagement and learning outcomes.
Usefulness of AI	All students believe AI is useful.	All teachers believe AI is useful.	100% agreed AI is useful.	Universally acknowledged potential of AI to support English teaching.
Replacing Teachers with AI	24.1% agreed AI could replace teachers.	24.1% agreed AI could replace teachers.	75.9% disagreed.	Consensus that AI cannot fully replace human teachers due to interpersonal needs.
Impact of Age and Experience	Younger students showed stronger preference.	Younger teachers were more positive than older ones.	Correlation = 0.267 ($p = 0.013$).	Younger participants tend to favor AI more, indicating generational differences.

DISCUSSION

The research aimed to explore teachers' perspectives on using Artificial Intelligence (AI) in teaching English at high schools in Jombang, Indonesia. By gathering data from 42 participants, consisting of 2 teachers and 40 students, this study provides valuable insights into the current utilization and perceptions of AI in the English teaching process. The findings indicate a predominantly positive outlook toward AI, with a unanimous agreement among participants on its usefulness in enhancing the teaching and learning experience. This aligns with the literature suggesting that AI can improve engagement and interactivity in educational settings (Pillai et al., 2024; Wang et al., 2024). However, while the results demonstrate that AI is viewed as an effective tool for supporting language learning, it is also evident that the role of human teachers is still highly valued and seen as irreplaceable in the context of English education.

The data reveals that AI tools, especially chatbots, were commonly used by the teachers in this study, facilitating automatic and personalized learning processes. The ability of AI to offer customized feedback, automate grading, and provide 24/7 access to learning resources was acknowledged as beneficial by both students and teachers. This use of AI is consistent with the findings of previous studies, which highlighted its potential to create a more interactive and individualized learning environment (Pillai et al., 2024). The use of chatbots and AI-driven applications can provide students with immediate responses and encourage self-directed learning, making the learning process more efficient and adaptable to students' individual needs.

Interestingly, despite the widespread agreement on the effectiveness of AI tools, only 24.1% of the participants believed that AI could replace English teachers. This finding suggests that while AI can augment the teaching process, it cannot replace the fundamental role of human teachers in facilitating learning, particularly in language education, where the nuances of communication, social interaction, and cultural context play an integral part. The role of teachers in guiding discussions, fostering critical thinking, and providing emotional support to students remains irreplaceable. These findings are in line with research by Belda-Medina and Calvo-Ferrer (2022), who argue that AI can complement traditional teaching but cannot fully replicate the dynamic nature of human interaction in the classroom.

The study also revealed the varying perspectives on the implementation of AI in teaching English. Younger teachers seemed to have a more favorable view of AI, reflecting the growing familiarity of digital natives with technological advancements. In contrast, older teachers were less enthusiastic, which may reflect concerns about the challenges of integrating new technologies into traditional teaching practices. These generational differences could highlight the need for professional development programs that equip teachers, regardless of age or experience, with the skills necessary to effectively incorporate AI into their teaching methods. As noted by Khang et al. (2023), continued teacher training and support are crucial for the successful integration of AI tools in the classroom.

However, the study also identified significant barriers to the widespread adoption of AI in Jombang's high schools. Practical challenges, such as time management issues and limited access to technological resources, were reported by teachers. These barriers echo concerns raised in previous studies about the inequities in access to technology and the potential digital divide that could exacerbate educational inequalities (Khang et al., 2023). Schools in rural or less economically developed areas may struggle with insufficient infrastructure, such as inadequate internet access or lack of proper training for teachers. These challenges must be addressed to ensure equitable access to AI-enhanced education for all students, regardless of their socio-economic background.

Looking ahead, the integration of AI in English language education is likely to expand, as technological advancements continue to evolve. As AI becomes more sophisticated, it is expected to offer increasingly personalized and adaptive learning experiences. For example, virtual tutors that can analyze individual student performance and adjust instruction accordingly could become more common in the future (Khang et al., 2023). AI may also become more capable of providing real-time feedback on student work, helping students to identify areas of improvement and make progress at their own pace. These developments promise to make the learning experience even more customized and student-centered.

Additionally, AI may play a significant role in language assessment. With the ability to evaluate and score written and spoken work in real time, AI can provide teachers with immediate insights into student performance. This can reduce the administrative burden on teachers, enabling them to focus more on interactive and pedagogical aspects of teaching. Furthermore, AI's potential to understand and respond to student emotions could enhance the overall learning environment by fostering a more empathetic and supportive atmosphere, which is crucial in language learning where emotional barriers often exist (Eli, 2021).

Despite the benefits, the integration of AI in education raises important ethical and social concerns that cannot be overlooked. One of the primary concerns is the potential for over-reliance on AI tools, which could hinder students' development of essential social skills. As AI becomes more prevalent in the classroom, there is a risk that students might miss out on the interpersonal communication skills that are critical for success in both academic and real-world contexts. The development of empathy, collaboration, and critical thinking may be compromised if students become overly dependent on AI for language learning (Eli, 2021).

Furthermore, the use of AI in education raises significant privacy and security concerns. AI systems often require access to large amounts of personal data, including student performance and behavior patterns. Without proper safeguards, this data could be vulnerable to misuse, raising concerns about data privacy and the ethical implications of collecting such sensitive information (Edmett et al., 2024). It is essential for policymakers and educators to ensure

that AI tools are used responsibly, with strong protections in place to safeguard student data and privacy.

In short, this study provides valuable insights into the perspectives of high school teachers and students in Jombang regarding the use of AI in teaching English. The findings suggest that while AI is seen as an effective tool for enhancing language learning, it cannot replace the crucial role of human teachers. Teachers' enthusiasm for AI is tempered by practical challenges, such as limited access to technology and time constraints. The study also highlights the need for professional development to help teachers integrate AI effectively into their teaching practices. Looking to the future, AI's role in education is expected to grow, but it is essential that its implementation is done thoughtfully, with consideration of ethical, social, and practical implications. By addressing these concerns, educators can ensure that AI enhances, rather than undermines, the learning experience and supports the development of well-rounded, socially competent students.

CONCLUSIONS AND RECOMMENDATIONS

This study highlights the potential of Artificial Intelligence (AI) to enhance English teaching in Jombang high schools by increasing student engagement and offering personalized learning. However, challenges such as limited technology access and teacher readiness persist. Successful AI integration requires targeted teacher training to develop practical skills in using AI tools, especially in resource-constrained environments.

To address these issues, professional development programs and government support are crucial. Investments in ICT infrastructure and affordable AI tools can improve access and adoption. Collaboration between policymakers, technology providers, and educators is essential to ensure sustainable integration. Future research should focus on case studies and long-term impacts of AI on teaching and learning outcomes, particularly in under-resourced schools.

ADVANCED RESEARCH

This study, while offering valuable insights into teachers' perspectives on AI in English teaching, has several limitations. The sample size, particularly the small number of teacher participants, may not fully represent the diverse experiences of high school educators in Jombang. Additionally, the study's focus on a specific geographic area limits the generalizability of its findings to other regions with different technological and educational contexts. Future research could expand the scope by including a larger and more diverse sample of teachers from various regions. Longitudinal studies examining the sustained impact of AI on teaching practices and student outcomes over time would also provide deeper insights. Furthermore, exploring specific AI tools in greater detail and evaluating their effectiveness through experimental studies could strengthen the understanding of AI's role in enhancing English education.

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