EXPLORING HOW EFL TEACHERS PERCEIVE THE USE OF AI TECHNOLOGIES IN MARGINALIZED AND SUBURBAN CLASSROOMS

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ABSTRACT. This research investigates how EFL (English as a Foreign Language) teachers perceive the integration of Artificial Intelligence (AI) tools in schools located in suburban areas. With the fast-paced development of AI in education, both benefits and drawbacks have emerged, particularly in the field of English language instruction. Adopting a qualitative case study design, this study involved seven EFL teachers from vocational and senior high schools in Samarinda, East Kalimantan. Data were gathered through semi-structured interviews and analyzed using thematic analysis. The results reveal that while most teachers see AI as a helpful aid for creating teaching materials and streamlining administrative tasks, they also believe it cannot replace the essential human element in education. Concerns were raised about students becoming overly dependent on AI, the ethical implications of its use, and the importance of tailoring AI-generated content to suit students' learning needs. Additionally, participants highlighted the need for ongoing professional development—especially for older or more experienced teachers to ensure AI is applied effectively and ethically in the classroom. This study offers insights into AI usage in less commonly studied educational settings and emphasizes the importance of implementing AI in a way that blends technological tools with sound pedagogical practices. It also recommends regular teacher training and the establishment of ethical frameworks to ensure AI supports rather than undermines English language education.

Keywords: Artificial Intelligence; EFL; Teacher perception; Education; Language learning technology

INTRODUCTION

The swift adoption of artificial intelligence (AI) in education is reshaping conventional approaches to teaching and learning. In parallel, the 21st century has witnessed major shifts in education, largely propelled by rapid technological progress. AI-based tools such as adaptive learning systems, intelligent tutoring programs, and automated assessment platforms facilitate personalized instruction, provide instant feedback, and enhance classroom management. Through the use of machine learning and natural language processing, these innovations increase student engagement and accommodate diverse learning styles. Nevertheless, the growing reliance on AI in educational settings also brings challenges, including concerns about data security, potential biases in algorithms, and the changing responsibilities of teachers in an AI-enhanced learning environment. (Kritandani et al., 2024).

As technology becomes more integrated into educational practices, teachers need to understand its role in enhancing teaching and learning (Dynarski et al., 2023), a significant advancement in the education sector is the growing presence of Artificial Intelligence (AI), which has sparked diverse reactions—from optimism to caution. This trend is especially pronounced in the realm of English as a Foreign Language (EFL) teaching. Although EFL instruction has long relied on conventional pedagogical approaches, the integration of AI

technologies, such as conversational AI, is transforming the way languages are taught and learned. These innovations offer exciting possibilities but also come with notable challenges.

Managing a range of competence levels in the same classroom, maintaining student interest, and offering individualized learning experiences are just a few of the difficulties that come with teaching English as a foreign language (EFL) (Pikhart, 2021). Due to the diverse linguistic backgrounds and varying proficiency levels among students, teachers often face difficulties in addressing each learner's individual needs effectively. Maintaining student motivation and engagement in language learning can also be a challenge, especially when relying on traditional, uniform teaching approaches. According to Sumakul et al., (2022) These challenges highlight the importance of innovative solutions, such as artificial intelligence (AI) tools, which can offer interactive and personalized learning experiences tailored to each student's proficiency level and learning pace.

Artificial intelligence (AI) tools have the potential to address key challenges in English as a Foreign Language (EFL) instruction, including the need for personalized learning, enhancing student engagement, and accommodating varying levels of language proficiency. (Pikhart, 2021). Speech recognition tools deliver instant feedback on learners' pronunciation and fluency, while chatbots and virtual language assistants enable interactive, real-time language practice. Adaptive learning platforms personalize content based on individual student needs, ensuring tailored learning paths that suit varying proficiency levels. Based on Cokyasar, (2021) AI solutions also make language learning more efficient and accessible by automating chores like grading and offering data-driven insights, freeing up teachers to concentrate on encouraging creativity and engagement in the classroom.

Despite the numerous benefits AI offers in EFL instruction, ethical considerations remain crucial. Researchers and educators have expressed concerns about issues such as algorithmic bias, data privacy, and overreliance on technology. It is essential for teachers to ensure that AI tools are implemented responsibly, with a focus on transparency, fairness, and safeguarding student information. Sumakul et

al., (2022) argued that teachers' human touch should be enhanced rather than replaced by the use of AI in the classroom since they are essential in determining the motivations, feelings, and individual learning preferences of each student.

METHOD

This study adopts a qualitative research methodology to investigate EFL teachers' perspectives on the advantages and challenges of incorporating AI tools into classroom instruction, as well as to examine the factors that influence their acceptance and use of these technologies. Utilizing a case study design, the research provides an in-depth exploration of this issue within its real-world setting, specifically targeting EFL teachers in selected sub-area schools. Participants were intentionally chosen from vocational and senior high schools that have either implemented or experimented with AI-assisted language learning tools. A total of seven English teachers participated, representing a range of teaching experiences and levels of technological proficiency. This purposive sampling approach was chosen to ensure diverse insights by including educators with varying degrees of familiarity with AI tools. Data were gathered through semi-structured interviews aimed at generating comprehensive and nuanced responses about teachers' experiences, attitudes, and concerns regarding AI use in EFL education. The interview guide featured open-ended questions based on the study's two central research questions, covering topics such as perceived benefits and limitations, readiness at both personal and institutional levels, ethical implications, and the impact of available training and resources. Interviews were conducted either face-to-face or online, depending on participant availability, and were audio-recorded—with consent—for subsequent transcription and thematic analysis.

Data analysis followed a thematic analysis approach, as outlined by Braun and Clarke (2006). The interview transcripts were carefully and systematically coded by hand to uncover key themes and patterns. These themes were organized based on the research questions, enabling the researcher to interpret the results in relation to existing literature and theoretical models on technology adoption and educational change. To strengthen the study's

credibility, member checking was employed by sharing summaries of the findings with participants for their feedback and confirmation. Additionally, triangulation was carried out by comparing the emerging themes with relevant documents or observations when available. This approach was designed to offer in-depth insights into EFL teachers' real-world experiences and professional perspectives on using AI in language learning. The qualitative methodology allowed the researcher to capture the complexity and diversity of teacher viewpoints, which are often influenced by contextual elements such as school policies, availability of technological resources, and individual attitudes toward teaching and technology integration.

The instrument employed in this study was an interview consisting of open-ended questions. This instrument was adapted from those used in previous related journal studies, namely Moura & Carvalho, (2024). The instrument is in the form of a review script for the teachers. The number of interview sections is 5. The instrument includes respondent information about the respondent's identity, such as name, gender, age, experience in teaching English, and experience in using AI in learning. The aim was to understand the context of teachers' backgrounds that may influence their perceptions of AI.

RESULT AND DISCUSSION

This research was conducted in five schools, SDN 018 Barong Tongkok, SMAN 1 Samarinda, SMAN 3 Samarinda, SMKN 2 Samarinda, and SMKN 17 Samarinda, in East Kalimantan. The research participants comprised several English teachers from these schools who have experience utilizing AI-based technologies in their teaching, either directly (such as using ChatGPT or Google Assistant) or indirectly (through AI features embedded in learning applications). All participants have educational backgrounds in English, holding either Bachelor's or Master's degrees. Their teaching experience spans from 3 to 30 years. Additionally, their familiarity with AI varies, with some just beginning to experiment with it, while others incorporate it regularly in their instructional practices. The following paragraphs will present and explain each participant's responses based on the researcher's interview questions.

Participant 1: ID

Based on the interview, the teacher ID, who has over 30 years of experience, expressed a strong opinion regarding the integration of AI in education. She has not used AI tools like ChatGPT in her teaching but is familiar with basic digital platforms such as Google Classroom and Google Forms. When asked whether AI can help with administrative tasks, she responded that although AI might offer convenience, she does not support its use, believing it reduces creativity and critical thinking in both teachers and students. According to her, relying on AI may lead to a decline in students' ability to write, think independently, and develop meaningful skills. Regarding whether AI could replace teachers, she strongly disagreed. She emphasized that teaching is not just about delivering content it involves shaping character, managing discipline, and building emotional connections, all of which cannot be replicated by machines. The COVID-19 pandemic proved this, as online learning weakened students' discipline and motivation, which teachers had to restore when schools reopened. She also raised concerns about fairness and access. Many students, especially those in remote areas, do not have adequate access to technology, making it difficult for AI-based learning to be implemented equally. Therefore, she believes that tools like AI could increase educational inequality if not properly managed. In terms of training, she supports continuous professional development for teachers. She acknowledged that while she does not fully understand how AI works, training would be necessary, especially for younger or more tech-oriented educators. Nonetheless, she remains cautious and skeptical about the overuse of AI in education, warning that it could hinder students' growth and creativity if not used wisely.

Participant 2: GZ

The informant, a 41-year-old teacher with 16 years of experience, shared her perspective on AI usage in education. She primarily uses AI as a teaching resource and supports it as a helpful tool that can assist teachers in focusing more on the learning process. However, she emphasized the importance of verifying and validating AI-generated content since AI responses depend on big data, which

may not always be accurate or aligned with educational standards. She also teaches her students not to rely entirely on AI, encouraging critical thinking and adherence to proper academic standards. Regarding AI replacing teachers, she believes AI can help deliver knowledge, such as grammar lessons, but cannot replace the crucial role of teachers in shaping students' character and behavior, especially in primary and secondary education. She highlighted that young learners require active, engaging learning methods involving physical activities, reading, and deep comprehension, which AI alone cannot provide. She agrees on the necessity of ongoing AI training for teachers, noting that while training programs are already in place, a balanced approach is needed to combine traditional teaching methods with AI tools. She mentioned that her school encourages teachers, especially younger ones, to stay updated by participating in digital teaching module competitions and sharing knowledge within teacher communities. Finally, she considers herself fairly familiar with AI technologies like Google's Gemini and ChatGPT but stresses that the effectiveness of AI in teaching must always be measured against established educational standards, collaborative teacher discussions, and national guidelines. In summary, she views AI as a supportive tool rather than a primary source in language teaching and learning.

Participant 3: AD

AD is a 28-year-old English teacher with three years of experience. She is familiar with AI and uses it sometimes, especially to help create reading texts. However, she thinks AI is not very helpful for administrative tasks because it is too general and not specific to teachers' needs. She believes AI cannot replace teachers. While AI can give information, it cannot build emotional connections or understand students personally like a real teacher can. Teachers can notice things like hidden talents or personal problems, which AI cannot do. AD is also concerned that using AI too much may reduce students' social and emotional skills. She believes students need to solve problems on their own, and relying on AI might make them less independent. She thinks it is very important to make sure AI is used in a fair and ethical way in education, because every student is

different. What works for one student might not work for another. Lastly, she believes teachers, especially senior ones, should get proper training on how to use AI. This will help them use AI in a way that supports learning without replacing students' efforts. Even though she hasn't explored all AI features, she finds tools like ChatGPT and Gemini useful, especially when used carefully.

Participant 4: ZK

ZK is A 28-year-old teacher with four years of teaching experience shared her thoughts on using AI in education. She said that AI can help with some administrative tasks like making lesson plans, but teachers still need to use their judgment. So, she feels AI helps about 50%. She believes AI cannot replace teachers. While AI can help deliver information, it cannot teach values or build personal connections with students. Teachers are important for emotional support and guiding students in ways AI cannot. She is also concerned that students who rely too much on AI may lose important skills like problem-solving and critical thinking. She explained that assignments are meant to help students learn, not just to get the right answers from AI. The teacher thinks it is important to use AI fairly and ethically. AI should support students' learning, not do their work for them. She also believes that teachers should receive basic training in AI, especially for those who are not familiar with it. She doesn't use AI much, except for simple tasks like generating writing topics. While she is not fully against AI, she feels that its use should be balanced and thoughtful.

Participant 5: LK

LK is a 37-year-old teacher who has been teaching at SMK 17 since 2010, with a total of 15 years of experience. She has been using AI tools, primarily GPT-based applications, and finds AI helpful as a reference to assist with tasks, but she advises that the answers from AI should not be fully trusted without verification, as they can sometimes differ from textbook information. Regarding whether AI can replace teachers, LK strongly believes it cannot. While technology can support digital learning, it cannot replace the important human interaction that occurs between teachers and students. She also notes that AI usage may contribute to the loss of students' social and emotional skills, as

students tend to rely heavily on AI tools like Google Lens and translators instead of engaging deeply with their| learning materials. She warns that students may simply accept whatever answer AI provides without understanding the underlying concepts, which can undermine learning objectives. LK emphasizes the importance of ensuring that AI tools used in education are applied ethically and fairly for all students, acknowledging the emotional and intellectual diversity among learners, especially in vocational schools like SMK. She stresses that teachers must verify students' work carefully to maintain educational quality. Finally, LK highlights the necessity of providing adequate AI training for teachers, especially considering the varying levels of technological familiarity among older and younger educators. She encourages peer support systems where teachers can share knowledge and help each other adapt to technological changes, ensuring that education keeps pace with the times.

Participant 6: SA

SA, a nearly 58-year-old English teacher approaching retirement, shared her views on AI use in education. She explained that AI, like ChatGPT or Gemini, has recently become popular, especially since the COVID-19 pandemic, as a tool designed to provide instant solutions and ease human tasks. However, she noticed that students often become lazy and rely too much on AI for quick answers instead of thinking deeply. When students use AI to complete assignments, she insists on following up with questions to ensure they truly understand the material and can explain their answers. Regarding whether AI can replace teachers, Ibu Sukiati firmly believes it cannot. While AI can provide knowledge, it cannot offer guidance, moral education, and emotional support, which are essential parts of teaching, especially at the high school level. She supports technology advancements but stresses the importance of carefully filtering its use, weighing the benefits and drawbacks. She emphasized the necessity of proper guidance and education for students about AI and its potential misuse, advocating for continuous supervision and awareness to help them navigate technology responsibly. Additionally, she strongly supports training programs for teachers, especially older ones who may be less familiar with new technologies, to ensure they can keep up with developments and effectively integrate AI tools into teaching. Although she uses AI tools like Google Assistant occasionally for quick information in urgent situations, she mostly relies on traditional resources and collaboration with colleagues through professional teacher groups to solve teaching challenges.

Participant 7: DP

Based on the interview, the teacher shared his experience and thoughts about using Artificial Intelligence (AI) in teaching. He mentioned using tools like ChatGPT and Google Assistant, mainly for urgent needs such as generating teaching materials. While helpful, he noted that AI-generated content often needs to be adjusted, especially when it includes difficult terms that students may not understand. The teacher believes AI is useful and has made his work easier, particularly when it comes to preparing lessons. He appreciated how AI can provide information quickly and even adjust the language based on students' age. However, he also expressed concerns about the idea that AI could replace teachers. He agreed with the opinion that if teachers don't improve their skills, there's a risk of being replaced. Still, he emphasized that AI cannot take over the emotional connection and real-time classroom interaction that only human teachers can offer. Regarding ethics, the teacher pointed out that AI tools should be safe and fair for all students. It's important that these tools block inappropriate content because students may try to access harmful information. Proper content filtering is necessary to protect them. He also believes that training teachers on how to use AI is very important, especially for younger teachers who are still active. While some experienced teachers can still be effective with traditional methods, most will need to adapt to new technology. Like smartphones, AI will likely become a standard tool in education. In summary, the teacher sees AI as a helpful assistant but not a replacement for teachers. Emotional support, ethical use, and proper training are essential to make AI effective in education.

Participant 8: TN

TN, a teacher from SDN 018 Barong Tongkok during her one year of teaching, she found that AI

really helps lighten her workload, especially when it comes to automatically grading assignments, monitoring student progress, and preparing reports. It saves a lot of time and effort that would usually spend on administrative tasks. However, she also realize that AI use hasn't been fully maximized yet. There are still some challenges, like inadequate devices and unstable internet connections, so AI can only be used partially, not fully. AI is useful as a supporting tool but cannot replace the role of a teacher in directly interacting with students. AI can help with monitoring, but it cannot replace the warm and personal social interaction between teachers and students. For that reason, she believe it's very important that AI is used with fairness, transparency, and clarity so all students get equal treatment and no misunderstandings occur. Besides that, she convinced that structured and official training is necessary so teachers can use AI properly and avoid misuse. So far, she felt AI has been quite helpful, even though haven't used it extensively. she believe that with good training, AI's role in the teaching and learning process will become more effective, efficient, and of course, responsible.

Participant 9 : HR

A 22-year-old teacher with two years of teaching experience observes that the use of AI is highly likely to assist with administrative tasks, such as grading multiple-choice questions and managing student attendance data, thereby significantly saving time. However, the teacher recognizes that AI cannot be used directly in the learning process if students do not have adequate devices or internet access. He/she believes that AI functions only as a supportive tool, since the teacher's role is far more complex, especially in building connections and relationships between students and learning materials. Moreover, AI has the potential to hinder important social interactions, making the presence of a teacher still essential. Additionally, if AI is not applied fairly and equally, it could disadvantage less fortunate students. Therefore, adequate training for teachers becomes a key factor to ensure that AI is used properly, efficiently, and to prevent misuse. Currently, the teacher is still at a basic level in utilizing AI and feels the need to continue learning more. He/she also emphasizes the importance of structured and

validated training for all teachers so they can use this technology responsibly and effectively.

Participant 10 : YZ

Yz, 23-year-old teacher with eight years of teaching experience expressed that the use of AI greatly helps reduce the burden of administrative tasks and preparation of learning materials. With AI, the teacher can focus more on the core teaching and direct interaction with students, thus improving the quality of learning. AI acts as an effective support tool in providing materials, conducting initial assessments, and organizing student data; however, the primary role of the teacher as a connector and facilitator of learning remains irreplaceable. The teacher also noted that although AI is helpful, there is a risk that students may become too dependent on the technology, potentially diminishing their ability to learn independently and develop creativity. Therefore, it is important for teachers to monitor AI usage to maintain a balance and avoid hindering students' critical thinking processes. Furthermore, the teacher emphasized the importance of fairness in applying AI so that all students, regardless of their backgrounds and access to technology, receive equal learning opportunities. Adequate and structured training for teachers is also necessary, especially for those unfamiliar with AI technology, to ensure they can utilize the tool effectively and appropriately. With considerable teaching experience, this teacher feels confident in using AI but remains aware of the need for regular evaluation to determine how effective AI is in supporting the teaching and learning process. Such evaluation is vital so that AI use not only eases teachers' tasks but also truly provides maximum benefits for students' overall development.

The results of this study highlight a range of viewpoints among EFL teachers in Samarinda and Barong Tongkok concerning the use of Artificial Intelligence (AI) in English language instruction. These views are influenced by factors such as teaching experience, technological proficiency, and the specific educational environments in which the teachers operate. In general, the findings indicate that although AI is regarded as a helpful aid in the teaching process, it is not seen as a substitute for human educators a sentiment that aligns with

observations from previous research. (Dilzhan, 2024; Mohamed, 2023).

A key theme that emerged from the interviews is the indispensable role of the teacher. Respondents from the most experienced educator (ID), with over 30 years in the field, to younger teachers like AD and ZK consistently agreed that AI cannot replace the emotional support, ethical guidance, and interpersonal interaction that human teachers offer. This aligns with (Vera, 2023), who highlighted that although AI can be valuable for administrative tasks and instructional assistance, it lacks the human element crucial for fostering student motivation and character building. Several teachers also pointed out that the limitations of AI became more evident during the COVID-19 pandemic, when online learning led to noticeable declines in student discipline and engagement.

Another key finding relates to the use of AI for both instructional and administrative tasks. Teachers such as LK and DP reported actively using AI tools like ChatGPT and Google Assistant to help prepare teaching materials, particularly when under time constraints. However, they emphasized the importance of reviewing and adjusting AI-generated content to ensure its accuracy and relevance. These finding echoes (Jiang, 2022), who observed that while educators acknowledge the practicality of AI, they remain cautious due to concerns over potential errors and the lack of contextual sensitivity in AI outputs. Several participants also highlighted the need to modify AI-generated materials to match students' language proficiency and meet curriculum requirements.

Teachers also voiced concerns about students becoming overly dependent on AI, especially when completing assignments without genuine engagement or effort. Educators like SA and ZK highlighted the tendency of students to use tools such as Google Lens or ChatGPT to get instant answers, potentially bypassing meaningful learning. This concern aligns with (Mohamed, 2023), who cautioned that although AI can facilitate language learning, excessive or improper use may undermine the development of critical thinking and problem-solving abilities.

An encouraging finding is that most teachers support the ethical use and equitable access to AI in education. Teachers like AD and LK highlighted the need for fairness, noting that AI tools should accommodate students' diverse needs and learning styles. This is particularly important in vocational schools (SMK), where student readiness and access to technology may vary. These reflections align with (Moura & Carvalho, 2024), who found that limited access and understanding of AI among educators can deepen educational inequalities if not addressed through proper training and resource allocation.

Teacher training was identified as a vital component in the effective integration of AI into the classroom. Many participants emphasized the importance of continuous professional development, particularly for more senior educators who may have limited exposure to emerging technologies. As also noted in previous literature (Dilzhan, 2024; Jiang, 2022), which stress that improving teachers' digital competence is essential for unlocking the full educational potential of AI. Several respondents shared that they had taken part in peer-led workshops or digital module competitions, indicating that school-based communities of practice can play a significant role in promoting AI literacy and supporting collaborative learning among teachers.

While this study reinforces insights from existing literature, it also adds value by providing a localized perspective on teachers' nuanced views within a semi-urban Indonesian context. The participants' reflections indicate that integrating AI into education goes beyond mere access to technology; it requires thoughtful pedagogical decision-making, ethical awareness, and adequate institutional backing.

In summary, the findings indicate that AI can be a useful support tool in EFL instruction, especially in enhancing content creation and improving efficiency. Nevertheless, its application must be thoughtfully managed to prevent student overdependence, uphold equity, and maintain the crucial role of teachers in fostering student growth. Future studies are encouraged to examine students' views on AI in language learning, assess its long-term effects on educational outcomes, and evaluate the effectiveness of professional development programs aimed at equipping teachers for AI integration.

CONCLUSION

This study examined the perceptions and experiences of EFL teachers in Samarinda and Barong Tongkok regarding the integration of Artificial Intelligence (AI) in English language education. The findings reveal a shared understanding among teachers that, while AI can be a valuable tool for both pedagogical and administrative purposes, it cannot replace the multifaceted role of human educators. Regardless of teaching experience from novice to veteran teachers consistently viewed AI as a supportive resource that can improve efficiency but lacks the emotional intelligence, ethical awareness, and interpersonal depth needed for holistic student development.

Teachers acknowledged that AI tools like ChatGPT and Google Assistant are useful for generating teaching materials and offering quick references, especially when time is limited. However, concerns were consistently raised about the reliability, appropriateness, and potential misuse of AI-generated content. Most teachers emphasized the importance of validating AI outputs and tailoring them to match learners' proficiency levels and curriculum standards. Moreover, several participants expressed worry over students' growing reliance on AI for completing tasks, warning that such behavior could undermine critical thinking, creativity, and learner autonomy.

Ethical considerations emerged as a recurring theme throughout the interviews. Teachers stressed the need for responsible AI implementation in the classroom, with close attention to data privacy, fairness, and the prevention of digital dependency. In vocational schools especially, the varying levels of student readiness and access to technology require flexible and inclusive approaches. Ensuring equitable access to AI tools and applying differentiated strategies were seen as key steps in minimizing educational inequalities.

An important implication of this study is the urgent need for continuous and inclusive professional development. While younger teachers are generally more familiar with AI, senior teachers expressed a need for targeted training programs to enhance their digital skills. Peer mentoring, school-based learning communities, and internal digital initiatives were identified as effective approaches to promote teacher development and facilitate AI adoption.

Based on these findings, several recommendations are proposed to support the responsible and effective use of AI in EFL classrooms. First, educational institutions should prioritize ongoing, differentiated professional development tailored to varying levels of digital literacy. These programs should focus on ethical use, pedagogical integration, and critical evaluation of AI-generated content. Second, schools should establish clear policies and ethical guidelines addressing issues such as student data privacy, content reliability, and academic integrity. Third, a balanced pedagogical approach is recommended— one that combines traditional teaching methods with AI-assisted tools to maintain a student-centered and socially engaging learning environment. Furthermore, cultivating AI literacy among students is essential by designing tasks that foster higher-order thinking skills—such as analysis, synthesis, and creativity—in order to reduce passive dependency on AI.

In conclusion, although AI holds significant potential as an educational aid, its implementation must be pedagogically sound, ethically guided, and contextually adapted. Teachers remain central to quality education, with AI best positioned as a complementary tool that enhances, rather than replaces, the human dimensions of teaching and learning.

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