

Exploring the challenges and opportunities of using AI in the English classroom

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Abstract

This research investigates the challenges and opportunities presented by the integration of artificial intelligence (AI) in English classes. Adopting a qualitative study approach, data were meticulously collected through in-depth interviews with English teachers, classroom observations, and the analysis of relevant documents. The findings reveal that AI holds significant promise for enhancing the learning experience, primarily through personalized material, automatic feedback, and enriched engagement for students. Moreover, AI tools like chatbots and translation software can aid learners in developing their reading, writing, speaking, and listening skills independently. However, the research also identified several challenges, including inadequate technological infrastructure, insufficient digital literacy among educators, and critical concerns regarding the ethics and privacy of student data. The study concludes that for AI to be successfully integrated into English classes, comprehensive training for teachers, supportive policies, and a tailored technological approach that addresses local needs are essential. Ultimately, when these challenges are strategically addressed, AI has the potential to serve as a catalyst for more effective and inclusive English learning.

Keywords: Artificial intelligence, challenge and opportunities, personalization of learning

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1. INTRODUCTION

In today's digital age, education has undergone a remarkable transformation with the integration of Artificial Intelligence (AI). Renowned for its potential to revolutionize various sectors, AI has emerged as a powerful tool that enhances the teaching and learning experience (Abimanto & Mahendro, 2023). Initially, its applications were limited to basic language processing tools and computer-assisted language learning systems. However, this evolution from simple tools to more complex systems mirrors the broader technological advancements within the educational landscape (Suparyta, 2024). AI now offers a range of innovative solutions that significantly enhance the teaching and learning process, particularly in the realm of English language acquisition. The essence of artificial intelligence (AI) lies in its nature as a socio-technical entity. This means that it encompasses not only technical aspects, but also the social context in which the system is developed, utilized, and implemented. In this process, a variety of stakeholders, institutions, cultures, norms, and existing environments play crucial roles (Dignum, 2021).

In today's increasingly globalized environment, the field of education serves as a vibrant hub of innovation and change. Among the many tools and technologies reshaping teaching and learning, Artificial Intelligence (AI) has emerged as a powerful force, poised to transform the way students interact with and experience their educational journeys. (Moybeka et al., 2023) Artificial Intelligence (AI) is one of the fastest-growing fields, encompassing both research and product development (Ramya et al., 2022).

In the process of teaching and learning English subjects, students are required to master four English language skills. These skills are listening, speaking, reading, and writing. Listening and reading are receptive skills where language users need the ability to receive spoken and written language. Language users need the ability to produce language both spoken and written. In order to master the four language skills, learners must have sufficient vocabulary. Language skills and vocabulary mastery are significantly related. It is often assumed that children who can demonstrate competence in communicating socially, such as on the

playground or in the cafeteria, are also able to communicate academically in the classroom and build confidence in one's ability to learn and learn how to acquire language and use knowledge and skills to read and write and participate fully in education.(Hamdani, 2020)

In the realm of English language learning, artificial intelligence (AI) presents vast opportunities to enhance the teaching and learning processes. It has introduced exciting possibilities for improving both the effectiveness and personalization of education(Arrona & Literasi, n.d.). AI can enhance accessibility and deliver prompt, accurate feedback, thereby enriching the learning experience. By fostering flexible, interactive, and tailored educational environments, AI plays a crucial role in boosting students' motivation to learn(Motivasi & Mahasiswa, 2025). With immediate feedback and easy access to relevant information, this technology also helps students alleviate the anxiety they often encounter during their learning journey. Learning that incorporates AI-based media offers numerous advantages. It helps reduce errors, provides limitless access to information, facilitates quicker decision-making, and ensures a lasting learning experience. Additionally, it brings forth a range of conveniences while maintaining consistency and thoroughness in the learning process(Lutfiyatun et al., 2023). Furthermore, the development and implementation of artificial intelligence (AI) systems in education must be guided by ethical principles. Issues such as fairness, transparency, and accountability are vital to ensure that AI technology does not exacerbate existing biases or inequalities. In this regard, collaboration between developers and educators is crucial to create inclusive and equitable AI tools, ensuring that all students have equal opportunities to benefit from these advancements.(Olatunbosun Bartholomew Joseph & Nwankwo Charles Uzondu, 2024).

The emergence of advanced artificial intelligence (AI) chatbot technology, exemplified by tools like ChatGPT, has initiated substantial transformations in the realm of English language teaching and learning since early 2023 (Subiyantoro et al., 2023). This development presents English teachers with a remarkable opportunity to incorporate AI into their educational practices. The advantages of AI are manifold, as these technologies can assist students in their language acquisition and offer daily speaking practice (Huang et al., 2022). Various tools, including

chatbots, automated translation systems, and AI-driven learning applications, have been effectively employed to enhance students' reading, writing, speaking, and listening skills. Additionally, adaptive learning systems have become increasingly prevalent, enriching students' learning experiences while also providing valuable support for educators.

While the integration of AI in English language learning offers numerous benefits, it also introduces several significant challenges. These challenges include limitations in grasping cultural nuances and social contexts, the risk of students becoming overly reliant on technology, as well as concerns surrounding ethics, data privacy, and disparities in technology access (Holmes, 2023). Consequently, it is essential to investigate how AI can be seamlessly incorporated into educational environments while taking into account the wider implications of its use (History et al., 2024). The lack of knowledge among teachers regarding the process of creating effective and creative stories (Inggris et al., 2024).

Against this backdrop, this study seeks to investigate the challenges and opportunities presented by the use of artificial intelligence (AI) in English language classes, employing a qualitative approach. It aims to offer valuable insights into how to optimize the advantages of AI while tackling the various obstacles that arise within the realm of English language education.

2. LITERATURE REVIEW

This research was carried out through interviews and observations involving teachers and students who actively integrate AI into their English language learning experiences. The findings of this study are organized around the following themes:

2.1. Opportunities for Utilizing AI in English Classes

The observations conducted reveal that AI significantly enhances English learning by improving both accessibility and effectiveness. The incorporation of AI fosters a more interactive learning environment, allowing students to tailor their learning experiences to their individual needs and capabilities. Trust in AI technology is an important and timely ethical concern (Borenstein & Howard, 2021). Moreover, AI offers a variety of helpful tools, such as automatic grammar correction,

pronunciation practice, and instant translation, which greatly facilitate the learning process and simplify the journey of mastering English.

Additionally, AI empowers teachers to manage their time more efficiently, particularly in assessing student assignments. With the aid of automatic evaluation tools, educators can provide prompt and consistent feedback. The integration of this technology not only increases student engagement but also encourages a more dynamic and enjoyable learning atmosphere through gamification and technology-driven interactions.

2.2. Benefits of Using AI

One of the primary advantages of AI is its ability to deliver personalized and efficient learning experiences. It can assist with pronunciation, grammar correction, and vocabulary enhancement swiftly and effectively. Furthermore, AI enables learners to access educational resources anytime and anywhere, allowing them to progress at their own pace. By utilizing AI, students can also obtain information more quickly, eliminating the need to sift through multiple sources. As a result, AI makes it easier for students to learn English.

2.3. Challenges of Using AI in English Class

The findings from our observations identify several challenges associated with the use of AI in English classes. One significant concern is the risk of students becoming overly reliant on technology. Additionally, disparities in access to technological devices can exacerbate educational inequalities, particularly where internet connectivity is limited in certain regions. Furthermore, a major hurdle is the lack of technological literacy among both teachers and students, which means that adapting to AI technology can be a slow process.

2.4. Use of Chatbot Applications

Opportunities

Chatbots offer personalized learning experiences that cater to each student's unique needs. They allow students to engage in vocabulary, grammar, or conversation exercises tailored to their individual proficiency levels. Additionally, these applications are accessible at any time and from anywhere, enabling students to study beyond formal class hours. This flexibility empowers learners to pursue independent study at their own pace. In the journal (Huang et al., 2022) Chatbot-supported

language learning involves using natural language interactions with chatbots for practical vocabulary practice and other everyday language skills

Challenges

Despite the rapid advancements in artificial intelligence, creating intelligent dialogues within chatbots presents significant challenges for developers. For instance, if a student inputs a misspelled word, the chatbot may respond with irrelevant information, leading to confusion. Furthermore, an overreliance on chatbots could hinder students' critical thinking and problem-solving abilities, as they may become too dependent on technology. Additionally, issues such as unstable internet connections can pose further obstacles for users of chatbot applications.

2.5. Utilizing the ChatGPT Application

Opportunities

The ChatGPT application presents valuable opportunities for students, enabling them to complete homework and school assignments quickly and efficiently. It also enhances their reading, writing, and speaking skills in English through an engaging and interactive approach. Additionally, ChatGPT offers constructive feedback and suggestions for improvement, which can motivate students and spark greater interest in learning the language. The presence of AI technology is becoming increasingly evident in various aspects of society, with ChatGPT serving as a prominent example. As one of the most advanced AI applications currently available, ChatGPT has captured the attention of the public around the globe. This is hardly surprising, considering its wide-ranging applications across multiple fields, including education (Vargas-Murillo et al., 2023)

Challenges

Despite its advantages, using ChatGPT comes with certain challenges. One significant hurdle is the reliance on internet access, along with the limitations inherent in data and natural language processing capabilities. For ChatGPT to function at its best, it requires a substantial amount of quality data. However, it often struggles with understanding context and the subtleties of language. Furthermore, the model is susceptible to cyber threats and data breaches, raising ethical concerns related to personal data

usage and the potential for discrimination. Lastly, there is the issue of student dependence on technology, which can affect their learning processes.

2.6. Key Differences Between Traditional Learning and AI-Enhanced Learning

The primary distinctions between traditional learning and AI-driven learning lie in their approaches and flexibility. Traditional learning typically emphasizes direct interactions between teachers and students, employing uniform methods applicable to all learners. In contrast, AI-based learning offers customized experiences, delivering immediate feedback and greater flexibility, which enables students to engage in independent learning beyond the classroom setting.

3. METHODS

This study employs a qualitative approach, specifically utilizing case study methodology, to investigate the challenges and opportunities presented² by the integration of artificial intelligence (AI) in English classrooms. The qualitative framework was selected for its ability to offer in-depth insights and a nuanced understanding of the experiences of both teachers and students as they navigate the use of AI technology in the learning environment. By focusing on non-numerical data—such as texts, interviews, observations, documents, and artifacts—the study seeks to uncover more intricate meanings, patterns, and interpretations. The qualitative approach is particularly valuable as it delves into the complexities of context, meaning, and the dynamics of human relationships within their social settings (Haki et al., 2024). This study seeks to enhance our understanding of how artificial intelligence (AI) is applied in English language teaching. It also aims to identify the challenges and opportunities that emerge with the integration of this technology within the classroom setting.

This study employs a qualitative approach, incorporating interviews with English teachers and observations of classes that utilize AI technology. The interviews serve as a valuable opportunity for researchers to gain deeper insights into teachers' experiences and perspectives regarding the

integration of AI in English language learning. Participants were chosen based on their familiarity with AI tools, including language learning applications and automatic translation resources like ChatGPT and Chatbot. Prior to conducting the interviews, the researcher developed a set of questions aligned with the study's focus, which were then shared with the English teachers to guide the discussion on their use of AI for data collection. In conjunction with the interviews, classroom observations will be conducted to examine the everyday dynamics of AI technology in the learning environment. These observations aim to capture the interactions between students and AI-powered tools like ChatGPT and Chatbot, assessing the impact of such technologies on their learning experiences. During this observation process, the researchers will also identify various challenges that may arise, such as technical difficulties, the limitations of integrating AI tools into existing curricula, and any negative effects on student engagement.

Data analysis will be conducted using thematic analysis techniques, enabling researchers to identify the key themes present in the gathered data.(Modgil et al., 2021). Through this analysis, the research aims to identify key patterns related to the challenges and opportunities in implementing AI in English language classrooms. The findings are expected to offer practical recommendations for educators and policymakers to optimize the use of AI, ultimately enhancing the effectiveness of English language learning.

4. RESULTS

Although students learn English, the language they acquire tends to be quite general. It is crucial for them to be equipped with specific skills tailored to their individual abilities. Schools must create an educational system that addresses the needs of students by developing teaching materials that align with real-life contexts, their interests, and their learning objectives.(Islam, 2023) Consequently, the teaching resources utilized should be contextual, relevant, and capable of fostering critical thinking, communication, collaboration, and creativity among students. Furthermore, it is essential for schools to involve teachers in the process of creating these materials, ensuring they meet the unique characteristics and needs of the students.

The use of artificial intelligence (AI) in education, particularly in English language classrooms, presents a multitude of opportunities as well as challenges. Through a qualitative approach, we can gain a deeper understanding of the impact of this technology on the learning process from the perspectives of both teachers and students.

However, many educators remain unfamiliar with the application of AI technologies, such as translation apps or automated writing tools. This lack of familiarity often stems from insufficient understanding and training. Consequently, the use of such technologies may hinder the development of students' critical thinking and natural communication skills. Additionally, not all schools have adequate internet access, particularly in remote areas, which poses a barrier to the implementation of AI technology in the classroom.

5. DISCUSSION

On the positive side, AI has the potential to create learning experiences tailored to the individual needs of students. With the assistance of AI, learners can access a variety of interactive learning resources, such as chatbots for speaking practice, text analysis tools, or adaptive language learning applications. These engaging and interactive AI technologies can enhance students' motivation to learn, especially in mastering speaking and listening skills. Furthermore, AI can assist teachers by streamlining administrative tasks, such as automatically grading essays or identifying students' needs through data analysis.

In a journal written by (Rifky, 2024), it is explained that personalizing education has become increasingly accessible thanks to advancements in artificial intelligence (AI). This technology has the ability to collect and analyze data regarding students' preferences, needs, and learning styles. As a result, AI systems can identify students' learning patterns and provide content, resources, and learning strategies tailored to their unique characteristics. This not only enhances the effectiveness of learning but also ensures that each student receives a relevant and engaging educational experience.

Assignments serve as vital activities that guide students in deriving meaningful results from the information they are given, requiring various cognitive processes. They enable teachers to monitor and regulate the learning journey in pursuit of educational objectives. Importantly, assignments equip students with the skills needed to understand and utilize AI technology effectively.(Zainuddin & Hamdani, 2024) Rather

than merely functioning as assessment tools, assignments cultivate critical and creative thinking by addressing real-world problems. When designed thoughtfully, assignments can encourage students to integrate their existing knowledge with contemporary technology, transforming them into active participants rather than passive users. This empowerment allows them to develop and implement AI-based solutions. Preparing students in this way is crucial for equipping them to navigate the challenges of the digital era and adapt to the rapidly evolving technological landscape.

Therefore, it is essential for teachers and lecturers to continuously adapt to the rapidly evolving technological landscape. This adaptation is crucial for enhancing their professionalism, allowing students to benefit from innovative and adaptive learning experiences created by skilled educators (Rifky et al., 2023)

6. CONCLUSION

The use of artificial intelligence (AI) in English language learning presents a range of promising opportunities. AI has the capability to deliver personalized learning experiences tailored to the unique needs of each individual. This includes the customization of materials based on a student's proficiency level and the provision of instant feedback. Furthermore, this technology facilitates students' access to interactive resources, such as chatbots that simulate conversations and voice recognition applications that aid in improving pronunciation. Additionally, AI supports flexible self-directed learning, allowing students to engage in educational activities outside the traditional classroom with consistent virtual guidance. With these innovations, the potential for AI to revolutionize English language education continues to grow.

However, the study also identified several challenges that need to be addressed. One major obstacle is AI's limitations in grasping cultural contexts and the emotional nuances of communication. Such limitations can lead to misinterpretations or inappropriate material adjustments that do not meet students' needs. Furthermore, excessive reliance on AI may diminish the essential human interactions inherent in language learning, such as in-depth discussions and social experiences that foster communication skills. Another issue is the significant investment in technology required, which could create access disparities for students from economically disadvantaged backgrounds.

To tackle these challenges, comprehensive training for teachers is crucial. Educators must be equipped to effectively leverage AI

technology, including its integration with traditional teaching methods. Moreover, the development of AI technology that is more attuned to cultural and emotional contexts is necessary for creating resources that are relevant and appropriate for English language education. Governments and educational institutions should also strive to formulate policies that promote inclusive access to technology, ensuring that students from diverse backgrounds can benefit from these advancements. Overall, AI holds considerable potential to enhance English language learning, provided it is implemented with a strategic and holistic approach. Collaboration among educators, technology developers, and policymakers is essential to ensure the effective integration of AI in classrooms. By addressing the existing challenges, AI can transform from merely an educational tool into a powerful catalyst for change in English language education, paving the way for a more inclusive and innovative learning experience.

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