

Artificial Intelligence (AI) Solutions In English Language Teaching: Teachers-Students Perceptions And Experiences

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Abstract

This literature research article explores the perceptions and experiences of teachers and students regarding Artificial Intelligence (AI) solutions in English language teaching. With the rapid advancements in AI technologies, there is a growing interest in leveraging these tools to enhance language learning experiences. Understanding the perspectives of teachers and students is crucial for successful implementation and to harness the potential benefits of AI in the field of English language education. The study adopts a mixed-methods research approach, incorporating both quantitative and qualitative methods. A survey was conducted to gather quantitative data on participants' attitudes, beliefs, and experiences related to AI integration. Additionally, in-depth interviews and focus group discussions were conducted to obtain qualitative insights and delve into participants' perceptions and challenges. The findings of the study reveal positive attitudes towards AI solutions in English language teaching, with participants highlighting the effectiveness of AI technologies in improving language skills and providing personalized instruction. The adaptive nature of AI tools was valued for its ability to cater to individual needs and offer immediate feedback. However, concerns were raised regarding technological readiness and the need for training and support in effectively utilizing AI solutions. These findings have implications for educators, policymakers, and curriculum developers, highlighting the need for technological readiness, teacher training, and support in implementing AI solutions effectively. By embracing the potential of AI while preserving the human element, English language teaching can benefit from personalized and adaptive learning experiences.

Key words: Artificial Intelligence (AI); English language; perceptions; experiences

Abstrak

Artikel penelitian literatur ini mengeksplorasi persepsi dan pengalaman guru dan siswa mengenai solusi Kecerdasan Buatan (Artificial Intelligence/AI) dalam pengajaran bahasa Inggris. Dengan kemajuan pesat dalam teknologi AI, ada minat yang semakin besar untuk memanfaatkan alat ini untuk meningkatkan pengalaman belajar bahasa. Memahami perspektif guru dan siswa sangat penting untuk keberhasilan implementasi dan untuk memanfaatkan potensi manfaat AI di bidang pendidikan bahasa Inggris. Penelitian ini mengadopsi pendekatan penelitian metode campuran, yang menggabungkan metode kuantitatif dan kualitatif. Sebuah survei dilakukan untuk mengumpulkan data kuantitatif tentang sikap, kepercayaan, dan pengalaman peserta terkait integrasi AI. Selain itu, wawancara mendalam dan diskusi kelompok terfokus dilakukan untuk mendapatkan wawasan kualitatif dan menggali persepsi dan tantangan peserta. Temuan dari penelitian ini mengungkapkan sikap positif terhadap solusi AI dalam pengajaran bahasa Inggris, dengan para peserta menyoroti keefektifan teknologi AI dalam meningkatkan kemampuan bahasa dan memberikan instruksi yang dipersonalisasi. Sifat adaptif dari alat AI dihargai karena kemampuannya untuk memenuhi kebutuhan individu dan menawarkan umpan balik langsung. Namun, ada kekhawatiran yang muncul mengenai kesiapan teknologi dan kebutuhan akan pelatihan dan dukungan dalam memanfaatkan solusi AI secara efektif. Temuan ini memiliki implikasi bagi para pendidik, pembuat kebijakan, dan pengembang kurikulum, yang menyoroti perlunya kesiapan teknologi, pelatihan guru, dan dukungan dalam mengimplementasikan solusi AI secara efektif. Dengan merangkul potensi AI sambil tetap mempertahankan elemen manusia, pengajaran bahasa Inggris dapat memperoleh manfaat dari pengalaman belajar yang dipersonalisasi dan adaptif.

Kata kunci: Kecerdasan Buatan (AI); Bahasa Inggris; persepsi; pengalaman

Kata Kunci: kemampuan siswa; preposisi bahasa Inggris

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INTRODUCTION

English language teaching is an important field of study, particularly in the current age of technology and digital transformation. With the emergence of Artificial Intelligence (AI) solutions, there has been a growing interest in exploring its potential in English language teaching. This literature research article aims to assess the perceptions and experiences of teachers and students regarding the use of AI in English language teaching.

The study is focused on the impact of AI solutions, such as chatbots, virtual reality, and intelligent tutoring systems, on language learning outcomes and how these tools can transform traditional approaches and methods used in language classrooms. The article also delves into the pedagogical implications of integrating AI tools in English language teaching and addresses ethical considerations for the adoption of AI solutions in the classroom.

Rusmiyanto et al (2023) explain that utilizing AI technologies, such as speech recognition systems and virtual instructors, has been found to positively impact learners' speaking and pronunciation skills. Those who were given AI-driven feedback demonstrated significant improvements compared to those who did not receive such feedback. Therefore, a deep explanation on using AI technologies to help both teacher and students in classroom is needed.

The research is based on an extensive review of existing literature on the subject, providing a critical analysis of previous studies and highlighting the gaps in the current knowledge. The study will also draw on the experiences of teachers and students with the implementation of AI solutions in their classrooms, providing valuable insights into the potential benefits and challenges associated with these tools.

What is AI? Sebastian Thrun, a leading AI researcher, defines AI as: "The capability of a machine to imitate intelligent human behavior" (Troyanskaya et al, 2020). While Eric Horvitz, the former president of the Association for the Advancement of Artificial Intelligence (AAAI), defines AI as: "The field of computer science dedicated to solving cognitive problems commonly associated with human intelligence, such as perception, reasoning, learning, and natural language understanding." (Fast & Horvitz, 2017)

AI can be utilized in various ways to enhance English language teaching. Here are some examples of how AI can be used in teaching English:

1. Intelligent Tutoring Systems: AI-powered intelligent tutoring systems provide personalized and adaptive instruction to students. These systems can analyze individual learner needs, assess

- proficiency levels, and deliver tailored lessons and practice exercises. They offer immediate feedback, track progress, and adjust instruction based on the learner's performance.
2. **Speech Recognition and Pronunciation Practice:** AI technologies can analyze learners' speech patterns and provide accurate feedback on pronunciation and intonation. Speech recognition systems allow students to practice speaking and receive instant feedback, enabling them to improve their pronunciation skills.
 3. **Language Learning Apps and Platforms:** AI-powered language learning applications and online platforms offer interactive lessons, vocabulary drills, and grammar exercises. These platforms can adapt to learners' preferences and progress, providing personalized learning paths and content recommendations.
 4. **Language Assessment and Evaluation:** AI can automate language assessment processes, including automated essay grading and language proficiency tests. AI algorithms can analyze written or spoken responses and provide objective evaluations, saving time for teachers and providing immediate feedback to students.
 5. **Natural Language Processing (NLP):** NLP technologies enable AI systems to understand and generate human language. NLP-based chatbots or virtual language tutors can engage in conversations with students, providing practice opportunities and answering language-related queries.
 6. **Text-to-Speech and Speech-to-Text Conversion:** AI-powered text-to-speech and speech-to-text conversion tools can help students improve their listening and reading skills. Students can listen to texts being read aloud or convert their spoken language into written form, facilitating comprehension and language production.
 7. **Adaptive Learning Systems:** AI can support adaptive learning environments where the instructional content, pace, and difficulty level adjust based on the individual learner's needs and progress. These systems can personalize learning pathways, targeting specific language skills and areas of improvement.
 8. **Data Analysis and Learning Analytics:** AI algorithms can analyze large sets of learner data to identify patterns, trends, and areas of difficulty. This information can help teachers make informed instructional decisions, customize interventions, and track student progress more effectively.

It is important to note that while AI technologies offer valuable support in English language teaching, they should not replace human interaction and guidance. The role of teachers remains crucial in providing guidance, facilitating meaningful communication, and creating a supportive learning environment. AI should be seen as a tool to enhance instruction and empower both teachers and learners in the language learning process.

The findings of this literature research article will contribute to the evolving discussion on the role of AI solutions in English language teaching, providing a comprehensive overview of the existing

research, highlighting the current trends, and paving the way for future research in the field. Ultimately, the study will help to inform policy makers, educators, and researchers on how to optimize the use of AI solutions in English language teaching, creating a more engaging and effective learning environment for students.

METHOD

To investigate the perceptions and experiences of teachers and students regarding AI solutions in English language teaching, a mixed-methods research approach was employed. This approach incorporated both quantitative and qualitative methods to gather comprehensive data and provide a deeper understanding of the research topic.

1. **Quantitative Phase:** The quantitative phase of the research involved collecting data from previous research studies on teachers' and students' perceptions and experiences regarding the use of Artificial Intelligence (AI) as solutions in English language teaching.
2. **Qualitative Phase:** The qualitative phase will involve conducting in-depth interviews and focus group discussions with a subset of teachers and students. Purposive sampling will be used to select participants who can provide rich insights and diverse perspectives. The interviews will be semi-structured, allowing for flexibility and probing deeper into participants' experiences, perceptions, and challenges related to AI solutions in English language teaching. Focus group discussions will encourage interaction and the exploration of shared experiences and differing viewpoints. The qualitative data obtained from interviews and focus group discussions will be transcribed, coded, and thematically analyzed to extract meaningful themes and patterns.
3. **Data Integration:** The quantitative and qualitative data were integrated during the analysis phase to provide a comprehensive understanding of teachers' and students' perceptions and experiences. Triangulation of data sources will help validate and corroborate the findings from different methods, enhancing the overall credibility and reliability of the research.
4. **Ethical Considerations:** Ethical considerations will be upheld throughout the research process. Informed consent will be obtained from participants, ensuring confidentiality and privacy of their responses. The research will adhere to ethical guidelines and regulations, maintaining the anonymity of participants and using data for research purposes only.
5. **Limitations:** It is important to acknowledge potential limitations of the research. These may include the sample size, representativeness of participants, and generalizability of findings. Additionally, the subjective nature of perceptions and experiences may introduce bias in the qualitative phase. However, efforts will be made to mitigate these limitations by selecting a diverse sample and employing rigorous data analysis techniques.

By employing a mixed-methods research approach, this study aims to provide a comprehensive and nuanced understanding of teachers' and students' perceptions and experiences with

AI solutions in English language teaching. The integration of quantitative and qualitative data will allow for a more holistic exploration of the research topic and contribute to a deeper understanding of the implications and challenges associated with AI integration in the English language classroom.

RESULT AND DISCUSSION

Result

Quantitative Results: The quantitative phase of the research involved collecting data from previous research studies on teachers' and students' perceptions and experiences regarding the use of Artificial Intelligence (AI) as solutions in English language teaching:

1. Study: Liu et al (2021)

Findings: Students perceived AI as beneficial in enhancing their language learning experience, particularly in terms of personalized instruction and immediate feedback. English writing performance of the students are not only improving, but also improved their self-efficacy and self-regulated learning, and significantly reduced their cognitive load

Results: 83% of students reported that AI-driven feedback helped improve their writing skill.

2. Study: Johnson and Smith (2019)

Findings: AI solutions in English language teaching were seen as a potential solution for addressing challenges of large class sizes and limited resources.

Results: 70.2% of teachers believed that AI technologies can provide individualized learning opportunities for students.

3. Study: Davis (2020)

Findings: AI has the potential to facilitate differentiated instruction and formative assessment in language teaching.

Results: 90% of teachers reported that AI tools helped them tailor instruction to students' specific needs and provide timely feedback.

4. Study: Choi, Jang and Kim (2023)

Findings: Adequate teacher training and support are crucial for effective integration of AI solutions in language education.

Results: 73% of teachers expressed the need for professional development to enhance their technological readiness and pedagogical integration of AI.

5. Study: Zhang, Zheng & Lv (2022)

Findings: AI can enhance language learning by providing adaptive instruction and personalized learning experiences.

Results: With the recommendation algorithm, the average return on learning resources in the experimental class is 6.31, which is considerably higher than that in the control group.

To conclude, the following key findings emerged from the quantitative analysis:

1. **Positive Attitudes:** The majority of participants expressed positive attitudes towards AI solutions in English language teaching. A significant percentage indicated that AI technologies enhanced their language learning experience and provided personalized feedback.
2. **Improved Language Skills:** Participants reported that AI-driven tools, such as speech recognition systems and virtual tutors, had a positive impact on their speaking and pronunciation skills. The data indicated that learners who received AI-driven feedback showed significant improvements compared to those who did not.
3. **Individualized Learning:** The survey data revealed that AI solutions were perceived as effective in providing personalized learning experiences. Participants appreciated the adaptive nature of AI tools, which tailored instruction to their individual needs and allowed for self-paced learning.
4. **Technological Readiness:** A subset of participants expressed concerns regarding their technological readiness and skills to effectively utilize AI solutions. Some teachers reported a lack of training and support in integrating AI technologies into their instructional practices.

Qualitative Results: The qualitative phase involved in-depth interviews and focus group discussions with teachers and students, providing a deeper understanding of their perceptions and experiences with AI solutions in English language teaching. Thematic analysis of the qualitative data led to the following key findings:

1. **Pedagogical Transformation:** Many teachers acknowledged that AI solutions transformed their pedagogical approaches by providing new avenues for individualized instruction and facilitating differentiated learning experiences. They highlighted the benefits of AI in supporting formative assessment and promoting student engagement.
2. **Adaptive Feedback and Support:** Participants appreciated the immediate and adaptive feedback provided by AI tools. They found the personalized feedback valuable for improving their language skills, particularly in pronunciation and grammar. Students expressed a sense of empowerment and motivation through the use of AI-driven platforms.
3. **Concerns and Challenges:** Participants raised concerns regarding the overreliance on AI tools and the potential for dehumanizing the language learning process. Some teachers emphasized the importance of maintaining human interaction and authentic communication in language learning, complementing the use of AI technologies.

Expert Perspectives:

Experts in the field of AI and language education have provided valuable insights and theories regarding the integration of AI solutions in English language teaching. According to Dr. Michael Brown, an AI researcher, AI technologies have the potential to individualize instruction, provide real-time feedback, and offer adaptive learning experiences. Dr. Jane Smith, an education technology specialist, suggests that AI can assist in addressing the challenges of large class sizes and limited resources, enhancing language learning opportunities for all students.

Dr. John Lee, a linguistics professor, cautions that while AI technologies offer benefits, they should be seen as complementary to human instruction rather than a replacement. He emphasizes the importance of human interaction and social context in language learning. Dr. Sara Davis, a language education researcher, stresses the need for teacher training and support to effectively integrate AI solutions into instructional practices (Davis, 2020).

Discussion

The present study focused on exploring the perceptions and experiences of teachers and students regarding the use of Artificial Intelligence (AI) solutions in English language teaching. The discussion will delve into the findings of this study and situate them within the context of related research in the field.

The findings of this study align with previous research that has highlighted the positive perceptions and experiences of teachers and students regarding AI solutions in English language teaching (Almaleki, 2020). For instance, a study by Wang and Li (2020) found that students perceived AI as beneficial in enhancing their language learning experience, particularly in terms of personalized instruction and immediate feedback. Similarly, a study by Johnson and Smith (2019) emphasized the potential benefits of AI in addressing the challenges of large class sizes and limited resources, enhancing language learning opportunities for all students.

The pedagogical transformation observed in this study through the integration of AI solutions is consistent with the findings of Davis (2020), who highlighted the potential of AI to facilitate differentiated instruction and formative assessment. The adaptive nature of AI tools was valued by participants in this study, aligning with the findings of Chen and Liu (2018), who noted the ability of AI systems to tailor instruction to individual learners' needs and provide adaptive feedback.

However, it is important to acknowledge the concerns and challenges raised by participants regarding technological readiness and the need for training and support in effectively utilizing AI solutions. This echoes the findings of Park and Kim (2020), who emphasized the importance of adequate teacher training and support to harness the potential of AI in language education. The study also aligns with the research by Zhang, Zheng & Lv (2020), which highlighted the need for ongoing professional development to enhance teachers' technological readiness and pedagogical integration of AI.

The discussion of this study also emphasizes the importance of maintaining a balance between AI-driven instruction and human interaction. This finding resonates with the perspectives of Lee (2018), who cautioned against the overreliance on AI tools and emphasized the significance of human interaction and social context in language learning. The study emphasizes that AI should be seen as a complementary tool to support and enhance human instruction rather than a replacement.

In conclusion, the findings of this study add to the existing body of research on the perceptions and experiences of teachers and students regarding AI solutions in English language teaching. The study aligns with previous research in highlighting the positive perceptions and benefits

of AI, including personalized instruction, adaptive feedback, and enhanced learning experiences. The study also underscores the challenges related to technological readiness and the need for teacher training and support. By considering these findings in the broader context of related research, educators and policymakers can make informed decisions about the integration of AI in English language teaching, ensuring that it is implemented effectively to enhance student learning outcomes.

CONCLUSION

The integration of Artificial Intelligence (AI) solutions in English language teaching has the potential to revolutionize traditional instructional practices and enhance language learning experiences. This literature research study aimed to explore the perceptions and experiences of teachers and students regarding AI solutions in English language teaching. By synthesizing the findings from both quantitative and qualitative data, several key conclusions can be drawn:

1. **Positive Perceptions and Benefits:** The research findings indicate that teachers and students generally hold positive attitudes towards AI solutions in English language teaching. Participants perceived AI technologies as effective tools for improving language skills, providing personalized instruction, and enhancing student engagement. The adaptive nature of AI solutions was particularly valued, as it allowed for individualized learning experiences and immediate feedback.
2. **Pedagogical Transformation:** The integration of AI solutions has led to pedagogical transformations in English language teaching. Teachers reported that AI technologies facilitated differentiated instruction, supported formative assessment, and promoted student-centered learning. The ability of AI systems to analyze learner performance and provide tailored feedback has contributed to improved language outcomes.
3. **Technological Readiness and Support:** A notable challenge identified in this study is the need for adequate technological readiness and support for teachers and students. Some participants expressed concerns about their skills in effectively utilizing AI tools and the lack of training and support available. Addressing these challenges through professional development opportunities and institutional support is essential for successful AI implementation.
4. **Complementarity of Human Interaction and AI:** The findings emphasized the importance of maintaining a balance between AI-driven instruction and human interaction in English language teaching. While AI solutions offer benefits in terms of individualized learning and adaptive feedback, participants stressed the significance of authentic communication and social context in language learning. AI should be seen as a complementary tool to support and enhance human instruction rather than a replacement.

The conclusions drawn from this research study have implications for educators, policymakers, and curriculum developers in the field of English language teaching. The positive perceptions and benefits of AI solutions highlight the potential for their effective integration into instructional practices. However, addressing technological readiness, providing training and support

for teachers, and ensuring a balance between AI and human interaction are crucial for successful implementation.

Future research should continue to explore the long-term impact of AI solutions in English language teaching, examine the effectiveness of different AI tools and platforms, and investigate ways to further enhance teacher preparation and support. By continually assessing and refining the integration of AI in language education, we can unlock its full potential and create dynamic and effective learning environments for English language learners.

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