

The Impact of Implementing Artificial Intelligence Technology in Teaching English as a Foreign Language

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Abstract

Artificial Intelligence in Education (AIEd) is an emerging education field. This Research Paper explicitly investigates the use of AI technology in language learning specifically in English as a Second Language (ESL). In recent years, the integration of Artificial Intelligence (AI) into our lives is becoming stronger, which can be seen in many areas, such as education. This has led to a revolution in teaching methods across different disciplines, particularly in the teaching of English as a Foreign Language (EFL), where it provides useful tools for teachers. The intersection between AI and FL represents a paradigm shift in educational practice, due to its ability to personalize learning experiences, provide instant feedback, and tailor to individual student needs. Therefore, the main goal of this report is to analyze the uses of AI tools in EFL, and to propose concrete and suitable AI tools to enhance the teaching-learning process.

أثر تطبيق استخدامات أدوات الذكاء الاصطناعي في اللغة الإنجليزية كلغة أجنبية

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الملخص:

الذكاء الاصطناعي في التعليم (AIED) هو مجال تعليمي ناشئ. تبحث هذه الدراسة في استخدام تكنولوجيا الذكاء الاصطناعي في تعلم اللغة وخاصة في اللغة الإنجليزية كلغة ثانية (ESL). في السنوات الأخيرة، أصبح دمج الذكاء الاصطناعي (AI) في حياتنا أقوى، وهو ما يمكن رؤيته في العديد من المجالات، مثل التعليم. وقد أدى ذلك إلى ثورة في أساليب التدريس عبر مختلف التخصصات، وخاصة في تدريس اللغة الإنجليزية كلغة أجنبية (EFL)، حيث يوفر أدوات مفيدة للمعلمين. يمثل التقاطع بين الذكاء الاصطناعي والتعليم الأجنبي تحولاً نموذجياً في الممارسة التعليمية، نظراً لقدرته على تخصيص تجارب التعلم، وتقديم ملاحظات فورية، وتخصيص احتياجات الطلاب الفردية. لذلك، فإن الهدف الرئيسي من هذا البحث هو تحليل مدى أثر استخدامات أدوات الذكاء الاصطناعي في اللغة الإنجليزية كلغة أجنبية، واقتراح أدوات ذكاء اصطناعي ملموسة ومناسبة لتعزيز عملية التدريس والتعلم.

Introduction

Artificial intelligence (AI) has become a transformative force in various industries, reshaping the way tasks are performed. In the field of education, especially in English Language Teaching (ELT), AI technologies are revolutionizing traditional teaching methods and providing new solutions to improve language learning experiences. This introduction sets the stage for exploring the significant impact of AI in ELT, emphasizing its potential to personalize instruction, create immersive learning environments, and meet the diverse needs of learners.

In the last ten years, progress in AI has led to the creation of intelligent tutoring systems, adaptive learning platforms, and natural language processing algorithms. These developments have important implications for language education. AI-powered tools analyze large amounts of data, including learners' interactions, preferences, and performance metrics, to provide customized instruction that suits individual learning styles and proficiency levels. Furthermore, AI technologies enable real-time feedback and assessment, providing immediate guidance on grammar, vocabulary, pronunciation, and other language skills for students.

The influence of Artificial Intelligence on English Language Teaching is significant and diverse. It offers unparalleled opportunities to improve language learning experiences and help learners attain proficiency in English language skills. Through responsible and collaborative use of AI, educators can transform language education and equip students for success in an interconnected world.

Literature Review

AI-driven technology has experienced a significant breakthrough in its global application, coinciding with the Fourth Industrial Revolution (IR 4.0). The digital age has brought forth numerous prominent opportunities through big data. Massive amounts of data are generated through digital applications, tools, platforms, and global communication among people (Luan et al., 2020).

The rapid advancement of artificial intelligence (AI) technologies is widespread and increasingly influential across all aspects of life, including education. According to Chen et al. (2020), AI technology has had a significant impact on the educational environment, with both educators and learners utilizing a variety of applications and tools such as tutor robots, adaptive learning systems, and smart tutoring systems. This allows teachers to choose from a wide range of educational AI technologies based on the specific learning needs of their students.

Significance And Justifications For Employing AI In English Language Teaching.

As Wang (2019), The importance and reasons for using Artificial Intelligence (AI) in English Language Teaching (ELT) are based on its ability to transform traditional teaching methods and improve language learning results. Firstly, AI allows for personalized learning experiences that are customized to the specific needs, preferences, and skill levels of individual learners. By analyzing large volumes of data, AI-powered adaptive learning platforms can offer tailored instruction, provide instant feedback, and pinpoint areas for improvement, thereby enhancing the learning experience.

Whitby (2009) asserts that the incorporation of AI in English Language Teaching (ELT) tackles the issues of scale and accessibility, especially in varied and resource-limited educational environments. AI-driven language learning apps widen the reach of high-quality education by providing learning opportunities anytime, anywhere, thus promoting fairness and inclusivity in language education. In addition, AI enables innovative teaching methods that encourage active participation, cooperation, and creativity among students. From interactive chat bots for practicing conversations to immersive virtual reality simulations for cultural immersion, AI technologies provide diverse

and dynamic learning experiences that inspire and empower students to enhance their English language abilities.

Relationship Between Artificial Intelligence And English Language Teaching

According to Joshi (2019), The Relationship between Artificial Intelligence (AI) and English Language Teaching (ELT) is dynamic and multifaceted. It involves integrating AI technologies into language learning and teaching processes, leading to the transformation of traditional ELT approaches and enhancing the overall language learning experience. Below are some key aspects that illustrate this relationship between AI and ELT:

AI technology enhances language practice by providing interactive simulations, language games, and virtual reality (VR) environments. Virtual language assistants and chatbots help students practice conversations, while VR technologies immerse learners in real-life language situations, allowing them to practice speaking, listening, and cultural interaction in English. AI-powered language learning applications improve access to quality education by overcoming geographical and socio-economic barriers. These platforms are available anytime, anywhere, allowing learners to engage with English language materials at their own pace, regardless of their location or background, promoting equity and inclusivity in English Language Teaching (ELT).

Support for Teachers and Professional Development: AI technologies assist English language teachers by offering tools for lesson planning, instructional design, and student assessment. AI-driven analytics provide valuable insights into students' learning progress and performance, allowing teachers to adjust their teaching strategies and offer specific interventions. Additionally, AI can aid in the professional development of teachers by providing personalized training modules and resources that cater to their individual needs and interests.

Immediate Feedback and Assessment: AI-powered tools offer immediate feedback and assessment to students, providing timely guidance on grammar, vocabulary, pronunciation, and other language skills. Automated grading systems, interactive chatbots, and language assessment software enable

learners to identify and correct errors in real time, accelerating the language learning process and enhancing self-directed learning.

Specific AI-Powered Tools And Platforms

Adaptive learning AI tools use algorithms to personalize and adjust the learning experience based on the learner's progress. Duo lingo is the most mentioned tool in this category due to its gasification technique, competitive learning environment that keeps learners engaged, and adaptation of materials based on learner abilities, making it suitable for all levels (Fitria, 2021a; Kannan & Munday, 2018).

Translation AI tools are used to translate text or speech from one language to another. Some well-known translators include Google Translator, DeepL, and Translator Online. These tools can be helpful for language learners as they promote self-directed learning and improve language skills, despite sometimes providing questionable translations. However, it's important for teachers to guide learners on how to effectively use these tools, making them aware of both the possibilities and limitations (Pokrivcakova, 2019; Yiang, 2022).

Chatbots use natural language processing (NLP) to engage in conversations and provide instant feedback, simulating intelligent human interaction (Pokrivcakova, 2019; Sharifuddin & Hashim, 2024). Some well-known chatbots include ChatGPT, Rosetta Stone, and Mondy.

Voice assistants use speech recognition to respond to spoken questions or commands, offering assistance and answers to queries. Examples of popular voice assistants are Amazon Alexa, Google Assistant, and Siri (Underwood, 2017; Fitria, 2021b).

Lesson design and content creation AI tools are designed to help teachers create instructional materials and curriculum. While these materials may still need to be reviewed and adapted by teachers, tools like Twee can make it easier for teachers to develop activities for their classes. Twee can create questions and activities for any topic and any level (Mogunova, 2023).

Teachers' Perspective on How AI Technology Motivates Pupils

As the current pupils are the millennials, the use of AI-powered technology is inevitable. They are exposed to and live with various technologies. Based on the review, it was evident that AI technology affected learners' attitudes toward learning. Teachers discovered that AI technology encouraged active participation and kept the pupils engaged in their learning process (Gu et al., 2021; Ting & Tan, 2021; Feng Teng, 2019; Sumakul et al., 2022).

In a finding by Gu et al (2021) on phonemes learning showed that pupils were able to comprehend and retain important language content such as word memory links, syllables, and pronunciation of letters with minor errors with the help of technology used. This eventually generated positive attitudes and affected the pupils' learning perceptions toward the language learning process.

Conclusion

In conclusion, the impact of Artificial Intelligence in English Language Teaching is profound and multifaceted, offering numerous benefits alongside challenges and considerations. AI technologies have the potential to revolutionize language learning by providing personalized instruction, facilitating immersive experiences, and extending access to quality education. Thus, the gap in the lack of information related to ESL teachers' perspectives in teaching and learning English has been fulfilled in this systematic review. The perspectives were discussed based on four aspects which are the effectiveness of using AI technology in ESL classrooms, the convenience of using the technology, the effect on pupils' motivation and the challenges in the implementation.

AI integration can enhance the learning process for students and teachers. These tools have the potential to provide automate feedback, and adapt the process to learners' needs, allowing students to progress at their own pace and fostering engagement, interaction, and a good learning atmosphere. Moreover, AI-tools aid teachers discover areas where students may have difficulties, diagnosing errors and patterns and providing an insight into students' learning so they can adapt their teaching strategies and methods accordingly. In addition, these platforms can reduce teacher workload by automating some tasks like grading, and help them to create materials easily, freeing up valuable time for educators

References

- Arun (2019), "Sustainable Green Hotels -Awareness for Travelers", International Journal of Emerging Technologies and Innovative Research ISSN:2349-5162, Vol.6, Issue 4, page no. pp343-347,<http://doi.one/10.1729/Journal.20408>
- Chen, C. M., & Chen, I. C. (2019). The effects of video-annotated listening review mechanism on promoting EFL listening comprehension. *Interactive Learning Environments*, (), 1– 15. doi:10.1080/10494820.2019.1579232.
- Fitria, T. N. (2021b). The use technology based on artificial intelligence in English teaching and learning. *ELT Echo: The Journal of English Language Teaching in Foreign Language Context*, 6(2), 213-223.
- Luan, H., Geczy, P., Lai, H., Gobert, J., Yan, S. J. H., Ogata, H., Baltes, J., Guerra, R., Li, P., & Tsai, C. C. (2020) Challenges and Future Directions of Big Data and Artificial Intelligence in Education. *Front. Psychol.* 11:580820. doi: 10.3389/fpsyg.2020.580820
- Mogunova, E. E. (2023). Artificial Intelligence Tools To Facilitate Teachers' work. *Ответственный редактор и составитель*, 165
- Pokrivcakova, S. (2019). Preparing teachers for the application of AI-powered technologies in foreign language education. *Journal of Language and Cultural Education*, 7(3), 135-153.
- Singh, B., Dhinakaran, D. P., Vijai, C., Shajahan, U. S., Arun, R., & Lakshmi, M. R. (2023). Artificial Intelligence in Agriculture. *Journal of Survey in Fisheries Sciences*, 10(3S), 6601-6611.
- Sumakul, D. T. Y., Hamied, F. A., & Sukyadi, D. (2022). Artificial Intelligence in EFL Classrooms: Friend or Foe?. *LEARN Journal: Language Education and Acquisition Research Network*, 15(1), 232-256.