CHATGPT IN ENGLISH AS A SECOND LANGUAGE EDUCATION: A REVIEW

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ABSTRACT

The purpose of this study was to explore current studies on the impact of the AI chatbot ChatGPT on English as a Second Language (ESL) education. Through advancements in deep learning algorithms and natural language processing, ChatGPT facilitates personalised content generation, information retrieval, and knowledge synthesis, enhancing students' engagement and learning experiences. This review discusses ChatGPT's implications for ESL learners and instructors and their perceptions, addressing classroom usage and personalised language learning, while acknowledging concerns regarding over-reliance and ethical considerations. A proposed framework advocates for responsible ChatGPT integration, emphasising pedagogical scaffolding and digital literacy. This review contributes insights for educators, researchers, and policymakers, offering guidance for leveraging ChatGPT to promote language empowerment in ESL contexts.

***Keywords:** Artificial intelligence (AI), Chatbot, language, ESL*

INTRODUCTION

English has been widely adopted as the official language in most countries and is often regarded as the lingua franca. Language education, especially in the context of English as a Second Language (ESL), has witnessed significant evolution over the years, driven by advancements in technology and pedagogical approaches. The emergence of Computer Assisted Language Learning (CALL) and Mobile Assisted Language Learning (MALL) have resulted in technological advancements leading to the expansion of AI Language Learning (AILL) as an entirely new field in L2 learning (Alharbi & Khalil, 2023).

Artificial Intelligence (AI) application in language education started a long time ago, with advancement in computers allowing for the development of language communication systems. Dating back to pioneering systems like ELIZA at the Massachusetts Institute of Technology (MIT) in 1966, and a computer system for understanding English developed at the Artificial Intelligence Laboratory, another research programme at the Massachusetts Institute of Technology (MIT) in 1972, AI has steadily paved the way for natural language interaction between learners and computer systems, marking the inception of AI's role in language education (Weizenbaum, 1966 & Winograd, 1972).

One of the contemporary manifestations of AI in language education is ChatGPT, an Artificial Intelligence Generated Content (AIGC) platform that dynamically creates various forms of content, including text, images, and videos, tailored to individualized requirements (Wu et al., 2023). GPT stands for Generative Pre-trained Transformer and ChatGPT is implemented as a chatbot that may be accessed through a number of platforms, including a website, a smartphone application or a messaging service (OpenAI, 2022). Empowered by advancements in computational hardware such as Graphics Processing Units (GPUs) and breakthroughs in deep learning algorithms, ChatGPT embodies a convergence of diverse technologies, including unsupervised learning, fine-tuning through instruction, multi-task learning, in-context learning, and reinforcement learning.

Research in AI integration in foreign language learning envisions a paradigm shift, leading to more adaptable and enriched learning environments tailored to learners' diverse needs (Tahir & Tahir, 2023). The adoption of ChatGPT in language education has garnered considerable attention from students owing to its efficiency and user-friendliness. As a versatile tool, students utilise ChatGPT not only for accessing information but also for synthesising and organising knowledge obtained from various sources. Through chatbots, the tedious task of information retrieval and summarisation is expedited, while simultaneously offering insights previously beyond the students' view (The Star, 2024).

The significance of English as an international language amplifies the relevance of AI-driven language learning tools like ChatGPT. In countries where English serves as a second or foreign language, proficiency in English opens doors to enhanced career prospects, facilitates seamless professional communication, and fosters a broader understanding of global knowledge (Shaikh et al., 2023). The most common way to learn and build fluency in English is by taking part in group discussions, debates and presentation, in which these activities can help improve learners' speaking, reading, writing and listening skills. With the emergence of chatbots adopting natural language processing technology, ESL learners are able to practice these skills with their very own personalised tutor.

However, despite its numerous benefits, the integration of ChatGPT into ESL education also raises legitimate concerns regarding its potential as a double-edged sword. One primary apprehension is the risk of over-reliance on AI-driven solutions leading to a passive learning experience. Students might become dependent on ChatGPT for generating responses and content, diminishing their active engagement in the language learning process. This could hinder the development of essential language skills, such as critical thinking, creativity, and linguistic fluency (Farr, 2024).

Moreover, the essential limitations of AI in understanding contextual distinctions and cultural subtleties may result in inaccuracies or misinterpretations, leading to erroneous learning outcomes (Shakil & Siddiq, 2024). Additionally, there is a concern about the ethical implications of AI-generated content, particularly in terms of intellectual property rights and the authenticity of information (Iskander, 2023). As such, while ChatGPT offers remarkable potential for enhancing ESL education, its blanket adoption without adequate safeguards and appropriate instructions could undermine the quality and efficacy of language learning. Therefore, the role of ChatGPT

should be critically evaluated within the broader framework of ESL education and strategies to mitigate potential risks are implemented while maximising its benefits.

Within this backdrop, exploring the intersection of ChatGPT and ESL education becomes necessary. This paper addresses the implications of integrating AI technologies like ChatGPT in ESL education. By examining the current landscape, discussing the challenges and opportunities, and offering insights into the future practices, this review seeks to clarify the potential of AI in shaping the dynamics of English language learning for non-native speakers. Through its analysis, this paper aims to contribute to the discourse surrounding AI's role in enhancing ESL education and fostering linguistic empowerment in an increasingly interconnected world.

REVIEW OF LITERATURE

Since its breakthrough in November 2022, numerous studies have been conducted on the effects of ChatGPT on education. Since the primary language of the internet is English, it is crucial to be proficient in English to effectively utilise AI chatbots. As a result, studies on the impact of AI on English language education, specifically ESL, have conquered publications in academic journals (Hong, 2023; Har, 2023; Koraishi, 2023; Lou, 2023 & Shaikh et al., 2023). Research by Shaikh et al. (2023) involved participants who were students and enrolled in a programme at the Norwegian University of Science and Technology (NTNU) who were asked to provide feedback for the usefulness and effectiveness of ChatGPT after performing a series of tasks related to formal English language learning. The results of the study show that using ChatGPT for English learning has big potentials as participants admitted that ChatGPT can expand their vocabulary, enhance their grammatical structures and as a result improve their written and conversational skills. In this study, ChatGPT was also observed to be able to evaluate students' tasks and translate texts from one language to another, providing opportunities for ESL students to easily ask questions, share thoughts, and discuss various topics. Ultimately, it was concluded that ChatGPT acted as a support tool for practising foreign language.

A study by Har (2023) on the perception of ChatGPT usage among ESL learners was conducted at the EMI University in Hong Kong involving students from years 1, 2 and 4 from a range of programmes including Social Sciences, Arts and Design, and various disciplines in Medicine as well as Business. Employing a qualitative model using semi-structured interviews, the study was conducted following an intervention during the students' English for Academic Purposes (EAP) course. Results of the study on students' perception focused on the students' feedback on the impact of ChatGPT use on the four language skills: reading, writing, listening and speaking. As a whole, students felt that ChatGPT can summarise, simplify, implement and event verify their understanding of reading passages. Using ChatGPT for writing taught the students to manage and consolidate different ideas and develop more persuasive communication through written texts. Speaking can be improved using ChatGPT through the chat function which models real life conversations. However, students find it hard to improve listening skills since ChatGPT "sounds like a machine talking" and "not very natural". Feedback also expressed that as a result, learners were not able to discern how different native speakers sound like.

One of ChatGPT's advantages in learning is its feature of offering individualised and interactive help that is catered to each learner's unique requirements and preferences (Firat, 2023). A mixed method study on the effectiveness of ChatGPT for personalised language learning by Mohammad Ali (2023) in two schools in southern Sweden involved a ChatGPT training and grammar intervention. During the intervention, ChatGPT was introduced as a personalised language learning tool and its impact on student learning outcomes and teachers' perception was evaluated through interviews to gather information of the teachers' experiences, perspectives and insights after using ChatGPT in an ESL classroom. The results of the study show that teachers find ChatGPT an effective tool in the ESL classroom, due to its ability to individualise instruction and improve students learning outcomes. The teachers noticed decreased errors in grammar which is credited to the tool's capacity to cater to the unique language needs of each student. Accordingly, Firat (2023) stated that ChatGPT can be used to offer suggestions for reading as well as interactive language tasks and activities catered to each unique learner's requirements and learning objectives which encourages learners' autonomy and improve learning experiences.

Alharbi and Khalil (2023) researched into the use of chatbots, which include ChatGPT, and investigated the perceptions and implications of AI usage in the context of English as a Second Language (ESL) through vocabulary acquisition. In their study, college students and English language teachers at a local university in Pakistan answered questionnaires related to AI integration in vocabulary learning. A Venn diagram analysis showed that teachers had higher comfort and lesser challenges with AI usage whereas students had higher trust in AI recommendations. Together, teachers and students used AI frequently for teaching and learning, believed that AI is effective and beneficial, and therefore recommended in vocabulary learning, and that AI had advantages over traditional methods. A thematic analysis through open-ended questions revealed that students generally have a positive attitude towards AI's role in vocabulary learning and they value the personalised and immersive learning experience using AI.

EFL teachers view ChatGPT as a valuable tool which offers assistance in numerous aspects of the teaching practice, namely in the process of curriculum and material development as well as simplifying the process of assessment. Koraishi (2023) examined how ChatGPT can be employed in ESL material development and its role in text assessments by using ChatGPT 4 to generate tailored text passages based on a specific topic. This passage is also linked to a designated Common European Framework of Reference for Language (CEFR) proficiency level which enables teacher to create reading materials that are relevant and level-appropriate for their learners. Following this, ChatGPT was also able to generate comprehension questions related to the previously generated text, leading to a more comprehensive learning experience. This ability solves the problem of finding interesting and relevant text for the diverse learners that ESL teachers usually have in their class.

Additionally, Koraishi (2023) also explored the ability of ChatGPT to integrate targeted vocabulary into generated text, and from this to also create vocabulary-focused worksheets or quizzes in a variety of formats. These time-saving approaches are then utilised in AI-assisted lesson planning in which specifically themed lesson plans can be tailored to specific objectives and outcomes all customised according to instructional needs. ChatGPT also uses a "working" memory

in which the language model will provide tips in relation to previous conversations which makes information output more relatable and practical.

Shakil and Siddiq (2024) highlighted claims of drawbacks regarding using AI tools for writing in ESL. Iskender (2023) stated that ESL students may resort to over-reliance on AI writing tools which can cause a decline in critical thinking among students. By quickly getting feedback from AI tools such as ChatGPT, the growth and development of students are negated as a result of not learning from their mistakes but rather having it corrected by an AI model. Research by Har (2023) revealed that some students had difficulties achieving full comprehension of difficult concepts. A student respondent expressed that writing essays seemed "pointless and useless because it didn't help build critical thinking skills."

Teacher respondents were more reserved about using ChatGPT in their EAP classrooms (Har, 2023). Issues of plagiarism and cheating were raised which build concerns on the need for regulations when using AI language tools. Perception of chatbots or any other AI assisted learning are also impacted by the age of the teachers. In Alharbi and Khalil (2023), teachers' age played a role in the degree of favourability of AI usage in vocabulary teaching and learning. The research discovered that younger teachers appreciated the efficiency and innovation from AI, thus demonstrating a more favourable or neutral view of chatbot usage in the classroom. Conversely, older teachers were concerned about AI overshadowing traditional tried-and-tested teaching methods and therefore were more resistant in advocating AI's role in education.

Koraishi (2023) pointed out that the use of ChatGPT in education raises ethical concerns such as data privacy, potential biases and the possibility of generating misleading or inappropriate content. Heleem et al. (2022) in Shakil and Siddiq (2024) noted an adverse effect of AI tools which are not able to fully grasp the subtleties of human language and context which can generate faulty content. Iskander (2023) highlighted that the risk of using machine learning models to generate content is that it can be perceived as plagiarism. This also raises issue on how to properly cite any material that is generated using chatbots to clearly indicate parts of content that were produced by a machine.

CONCLUSION

ChatGPT offers a variety of advantages in English as a second or foreign language education by offering personalised learning experiences, aiding in lesson planning, and enhancing students' engagement with English language materials. The integration of ChatGPT has the potential to develop autonomous language learners who can navigate diverse linguistic contexts with confidence and proficiency. By providing immediate feedback, generating tailored content, and facilitating interactive language practice, ChatGPT empowers ESL learners to take ownership of their learning journey. Moreover, its utility in lesson planning streamlines educators' workflow, enabling them to create dynamic and interactive language lessons that cater to learners' individual needs and preferences. However, it is essential to acknowledge the inherent risks associated with ChatGPT, including the potential for over-reliance and ethical concerns. While ChatGPT

undoubtedly enhances ESL education, educators must implement safeguards to mitigate these risks and foster a balanced approach to technology integration.

It is also important to note that current studies on ChatGPT use in ESL classrooms predominantly focus on perception, highlighting a gap in our understanding of its actual impact on learning outcomes. Future research should aim to conduct more in-depth investigations that go beyond perception and into the tangible effects of ChatGPT integration on language proficiency, learner autonomy and overall educational outcomes. Possible areas for investigation include studies assessing long-term effects of ChatGPT usage, comparative studies evaluating efficacy against traditional teaching methods and possible socio-cultural factors influencing ESL learners' attitudes and usage patterns of ChatGPT. By leveraging ChatGPT's strengths while addressing its limitations, ESL educators can harness the full potential of AI-driven tools to create immersive and effective language learning environments.

REFERENCES

Alharbi, K., & Khalil, L. (2023). Artificial Intelligence (AI) In ESL Vocabulary Learning: An Exploratory Study on Students and Teachers' Perspectives. *Migration Letters*, *20*(S12), 1030-1045.

Farr, C. (2024). *Unmasking ChatGPT: The Challenges of Using Artificial Intelligence for Learning Vocabulary in English as an Additional Language* (Doctoral dissertation).

Firat, M. (2023). How chat GPT can transform autodidactic experiences and open education?

Fuchs, K. (2023, May). Exploring the opportunities and challenges of NLP models in higher education: is Chat GPT a blessing or a curse? In *Frontiers in Education* (Vol. 8, p. 1166682). Frontiers.

Har, F. (2023). Teaching English as a Second language in the Midst of a Paradigm Shift: An Exploration of Students' and Teachers' Perception of ChatGPT. *Critical Reflections on ICT and Education: Selected Papers from the HKAECT 2023 International Conference.* 21-35.

Hong, W. C. H. (2023). The impact of ChatGPT on foreign language teaching and learning: Opportunities in education and research. *Journal of Educational Technology and Innovation*, *5*(1).

Iskender, A. (2023). Holy or unholy? Interview with open AI's ChatGPT. *European Journal of Tourism Research*, *34*, 3414-3414.

Koraishi, O. (2023). Teaching English in the age of AI: Embracing ChatGPT to optimize EFL materials and assessment. *Language Education and Technology*, 3(1).

Lou, Y. (2023). Exploring the application of ChatGPT to English teaching in a Malaysia primary school. *Journal of Advanced Research in Education*, 2(4), 47-54.

Mohammad Ali, A. (2023). An Intervention Study on the Use of Artificial Intelligence in the ESL Classroom: English teacher perspectives on the Effectiveness of ChatGPT for Personalized Language Learning.

Muniandy, J., & Selvanathan, M. (2024). ChatGPT, a partnering tool to improve ESL learners' speaking skills: Case study in a Public University, Malaysia. *Teaching Public Administration*, 01447394241230152.

OpenAI, (2022). *ChatGPT.* Retrieved from https://openai.com/blog/chatgpt/ on 8 April 2024.

Rudolph, J., Tan, S., & Tan, S. (2023). ChatGPT: Bullshit spewer or the end of traditional assessments in higher education?. *Journal of applied learning and teaching*, *6*(1), 342-363.

Shaikh, S., Yayilgan, S. Y., Klimova, B., & Pikhart, M. (2023). Assessing the usability of ChatGPT for formal English language learning. *European Journal of Investigation in Health, Psychology and Education*, 13(9), 1937-1960.

Shakil, E. & Siddiq, S., (2024). ESL Teachers' Perceptions about ChatGPT as a Threat to Analytical Writing Abilities of ESL Learners at Graduate Level. *Pakistan Language and Humanities Review,* 8(1), 115-128.

Tahir, A., & Tahir, A. (2023). AI-driven Advancements in ESL Learner Autonomy: Investigating Student Attitudes Towards Virtual Assistant Usability. In *Linguistic Forum-A Journal of Linguistics.* 5(2), 50-56.

The Star, (2024, April 22). Students rely heavily on AI to excel in coursework. *The Star*. Retrieved from https://www.thestar.com.my/news/nation/2024/04/22/students-rely-heavily-on-ai-to-excel-in-coursework

Weizenbaum, J., (1966). ELIZA – A Computer Program for the Study of Natural Language Communication Between Man and Machine. *Computational Linguistics*, 9(1), 36-45.

Winograd, T., (1972). Understanding Natural Language. *Cognitive Psychology.* 3(1), 1-191.

Wu, T., He, S., Liu, J., Sun, S., Liu, K., Han, Q. L., & Tang, Y. (2023). A brief overview of ChatGPT: The history, status quo and potential future development. *IEEE/CAA Journal of Automatica Sinica*, 10(5), 1122-1136.