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Artificial Intelligence's Impact on Language Instruction for Non-Majors in English

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Abstract. This paper provides a comprehensive review of the impact of artificial intelligence on non-English major students learning a second language. This paper summarizes and analyzes the current status and key issues of second language acquisition research for non-English majors. With scientific and technological advancements, artificial intelligence, as an emerging technology, has brought about profound transformations to daily life. Artificial intelligence's impact on second language acquisition has always been an increasingly growing research field, especially how online platforms such as DeepSeek and ChatGPT specific applications to learn a second language and promote learners' second language progress through informal and formal interaction. Hence, the results help to understand the significant role of artificial intelligence in second language learning, broaden the learning pathways of second language acquisition, and provide effective suggestions for language learning for non-English majors. For instance, learners can acquire knowledge through personalized teaching provided by AI and through gamified teaching. They can also learn the content they are interested in through such means. However, it also highlights the potential adverse effects, such as the of privacy and the increased learning costs and the occurrence of phenomena such as educational inequality so on.

Keywords: English, artificial intelligence, language learning

1. Introduction

This paper highlights the interdisciplinary nature of the field of pedagogy and how it attracts research from diverse backgrounds. With the impact of digital platforms on people's language learning, the impact of artificial intelligence on second language acquisition has become an important area of research. Language serves as the most direct medium for human communication, and therefore, language acquisition has been regarded as one of the critical fields of study. Non-English majors attach importance to the study of a second language based on interest, global competitiveness, and the need for cross-cultural communication, but due to the lack of systematic curriculum, non-English majors turn to the use of artificial intelligence to learn a second language. This paper explores how to implement AI-assisted teaching and its advantages, as well as examines the disadvantages associated with it. For example, AI can be tailored to individual learning needs, thereby enhancing student efficiency and providing access to a wealth of resources that make

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learning content more engaging. Nonetheless, it is imperative to recognize any possible disadvantage, including increased student costs and concerns regarding privacy breaches and the occurrence of phenomena such as educational inequality so on.

2. Literature review

Artificial intelligence, as an emerging technology, has experienced rapid development and gradually matured, such as ChatGPT and DeepSeek and so on, as natural language processing tools, have reached a mature stage has significantly impacted the lives of individuals. For instance, AI systems can provide optimal solutions based on user-specific instructions. At the same time, the way of learning a second language is no longer limited to classroom teaching, but has expanded to different teaching methods. In the last decade, research and development has certainly accelerated in the area of AI in Education [1]. At the meanwhile, in a world that is becoming more interconnected by the day, English has solidified its position as the universal language. Therefore, the significance of English is self-evident. In addition to making the paper easier for the intended audience to read and understand, proper language expression is crucial for efficiently communicating ideas and guaranteeing clear communication. Therefore, logical accuracy is of vital importance, and thus it is particularly crucial for researchers to use AI to polish the papers. Learners can modify and polish their papers by using the advanced vocabulary pointed out by AI, and can also learn about the advanced vocabulary pointed out by so that they can use it in their papers next time.

According to Sari et al. AI is increasingly being researched in the field of education as a potentially helpful tool to support and enhance language learning, particularly in the development of students' communication skills [2]. Artificial intelligence presents the possibility of individual, interactive, and flexible learning experiences that accommodate the needs and preferences of various pupils. For instance, in the comparative experimental study conducted by Nykyporets et al., 213 students from the National Technical University of Ukraine participated in an AI-driven learning activity lasting one academic year [3]. The experiment adopted AI intervention using the Duolingo adaptive algorithm or an intelligent tutoring system, with real-time feedback and immersive conversations. The results showed that the retention rate of vocabulary using Duolingo increased from 61% in traditional methods to 84% ($p < 0.001$), indicating that the adaptive algorithm significantly optimized the memory effect. The accuracy rate of practice also increased from 68% to 91%. The personalized learning path reduced cognitive load, verifying the effectiveness of AI tools in Ukrainian higher education, filling the gap in regional empirical research, and deepening the understanding of the AI-driven learning mechanism through the combination of cognitive load theory and constructive framework. It provided actionable integration strategies to support educators in optimizing course settings. However, its limitations cannot be ignored either. For instance, the limitation of the sample. The participants are mainly freshmen and sophomores, lacking data from learners of other ages or with lower proficiency. The experimental results are insufficient. The longest experimental period is one academic year, and there is no tracking of the long-term retention of vocabulary. In the future, more age groups and diverse cultural backgrounds can be included, and the transparency of technology can be enhanced to promote the wider application of AI in language education. In conclusion, the integration of artificial intelligence into classrooms has emerged as a significant trend, with teachers and students leveraging artificial intelligence technologies to enhance learning experiences and facilitate a deeper understanding among students. The fundamental idea behind it is that the goal of integrating AI into English classes is to make the classroom more student-centered, responsive, and effective.

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Teachers can use it to tailor their lessons to each student's particular requirements and learning preferences [4]. Artificial intelligence can equip teachers with multifaceted teaching resources during the instructional preparation phase and enable personalized instruction tailored to students with diverse personalities. For instance, the research conducted by Liang & Zhang mainly focused on whether AI-driven language learning applications outperformed traditional methods in enhancing English as a Second Language/English as a Foreign Language earners' vocabulary acquisition rates, and how the game elements incorporated in the applications affected learners' motivation and engagement [5]. The experiment adopted a comparative analysis method and combined quantitative and qualitative research. Two hundred learners aged 18-40 years old in ESL and EFL were selected and selected at random The experimental group used AI applications with game elements, while the control group used textbooks and classroom activities. The experiment lasted for 12 weeks. Standardized vocabulary tests and Likert scales were used for analysis. The results showed that the post-test vocabulary scores of the experimental group were noticeably greater than those of the pre-test ($t = -18.186$, $p < 0.001$), while there was no similar change in the control group. At the same time, the initial motivation of the experimental group and the final grade difference were significant ($t = -7333$, $p < 0.001$), while there was no significant difference in the control group. The interview results also indicated that the reward system and challenge mechanism enhanced the learners' sense of continuous participation. The experiment verified the effectiveness of AI-powered language learning resources, combined with the constructive and self-regulation frameworks, and provided empirical evidence for educators. It also supported the integration of AI tools with game design. However, the research did not distinguish whether the positive effects come from AI tools or constructive and self-regulation frameworks, which may lead to inaccurate conclusions. It is to combine a variety of design tools to distinguish constructive and self-regulation frameworks. At the same time, the sample design had a problem of age differences among participants, which might introduce bias if the specific algorithms or content sources of AI were clarified. Lastly, there is no clear algorithmic logic and content design for AI applications. Comparisons should be made among different platforms, such as Duolingo and Babbel, and statistics should be conducted on the retention of vocabulary among learners after the intervention. The findings underscore the pivotal role of AI in educational contexts, particularly through the implementation of gamified teaching methodologies facilitated by AI technologies, which significantly enhance learner engagement and diversify pedagogical approaches. Moreover he results have significant reference value for the development of educational technology and language teaching strategies. However, it is imperative to remain cognizant of the potential adverse implications associated with such implementations. It also warns people that AI can reduce the role of teachers in the teaching process. As artificial intelligence platforms and applications become more sophisticated, there is a risk that they could replace some of the tasks that are currently performed by human teachers, such as grading assignments and providing feedback [6,7]. This suggests that people should make adjustments to the problem, and cannot change the student-centered and teacher-led classroom model. The implementation of this approach may lead to educational quality stratification, wherein well-resourced institutions could rapidly achieve transformation while resource-deficient regions experience exacerbated disparities. The allocation of educational resources might further amplify these inequalities, thereby undermining the principle of educational equity. Furthermore, this initiative carries the risk of escalating teacher-student conflicts, as the potential erosion of teacher authority could result in classroom disorder, particularly in senior grades or classes with existing disciplinary challenges. This phenomenon could lead to the solidification of social strata, making it difficult to achieve social mobility through education. This may result in the potential of talents being wasted. Many talented

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individuals are unable to display their abilities due to insufficient educational resources. At the same time, it leads to restricted creativity and inability to enhance the country's technological, economic and cultural competitiveness. And this situation may impede teachers' ability to provide effective instructional guidance and classroom management in a timely manner. It may lead to classroom chaos and prevent the effective imparting of education. Lastly, the approach may face scrutiny from parents and society at large, as traditional educational paradigms (such as the "test-score-oriented" mentality) might conflict with the new model, potentially leading to school-family tensions and secondary educational outcomes.

Without a doubt, artificial intelligence is and will continue to revolutionise the world. Nevertheless, despite its potential for good, AI also poses a risk to civilisation [8]. While artificial intelligence is certainly helpful, people should be aware of the downside. Prastiwi & Pujiawati state that the majority of people utilized the Internet to site, search, analyse, and use cloud services throughout the period of the Industrial Revolution 4.0, which was characterized through data transfer and automation [9]. The browsing history will be recorded, and artificial intelligence systems will have the capability to analyze this data, which may pose potential risks to user privacy. Privacy is another possible threat to take into account, according to Rukiati et al. there is a chance that AI's data on how pupils behave and interact with the platforms or pragrammes could be exploited or shared without permission [10]. If the student's research pertains to an unexplored area, then it is impossible to operate with AI. This might result in the browsing history being recorded and potentially being exploited. Ensuring that privacy safeguards are in place is crucial in order to avoid these threats. While using AI, one should also pay attention to the privacy issues involved. Some key technologies cannot be processed by AI. Ensure privacy and security are properly handled.

Other unfavorable factor is that computer assisted learning tools will increase learning costs. RMB 8, 139 per child was the average household spending on regular full-time education across the country, making up 10. 8% of total household spending [11]. Learners may not be satisfied with basic artificial intelligence tools and want to further use them without restrictions. Learners may purchase more advanced artificial intelligence models for chat learning, but this also increases the cost of family learning. This may lead to a gradual increase in family. At the same time, educational inequality will also lead to financial expenditures. Students with low educational attainment who are lagging behind may spend a large amount of money to seek educational fairness and to look for more efficient and advanced AI educational models. This might result in an increasing amount of educational expenditures for families. spending on education, resulting in the cost of learning becoming a burden for families.

3. Conclusion

Artificial intelligence provides a new teaching model for learners. Learners can chat with artificial intelligence to learn more advanced or everyday words, or learn more concise and academic words through the process of artificial intelligence polishing papers. Artificial intelligence brings personalized teaching to students. It can augment learners' enthusiasm and sense of engagement while diminishing their feelings of dissatisfaction. It caters to different interests and needs of learners simultaneously. Educators can also gamify the learning process through artificial intelligence and incorporate it into the classroom. However, everything has two sides. While bringing benefits, the downside cannot be ignored by researchers. Will the extensive use of artificial intelligence neglect the role of teachers in the classroom? Will it replace the educational model of teachers in traditional classrooms? Can privacy be protected? Will learning costs increase? These are

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all issues that need to be considered in the future. In future research, researchers should give solutions to these problems.

References

[1] Hwang, G. J., Xie, H., Wah, B. W., & Gašević, D. (2020). Vision, challenges, roles and research issues of Artificial Intelligence in Education. Computers and Education: Artificial Intelligence, 1, 100001.
[2] Sari, N. (2023). The role of artificial intelligence (AI) in develoing English language learner's communication skills. Journal on Education, 6(01), 750-757.
[3] Nykyporets, S. S., Pradivlyanny, M. H., Boiko, Y. V., Chopliak, V. V., & Kukharchuk, H. V. (2024). Innovative techniques in vocabulary acquisition for foreign language learning: the impact of artificial intelligence. Суспільство та національні інтереси№ 5 (5): 113-127.
[4] Kim, H. S., Cha, Y., & Kim, N. Y. (2021). Effects of AI chatbots on EFL students' communication skills. □□□, 21, 712-734.
[5] Liang, W. X., & Zhang, J. Y. (2024). Impact of AI-driven language learning apps on vocabulary acquisition among English learners. Research Studies in English Language Teaching and Learning, 2(1), 2–10.
[6] Godwin-Jones, R. (2022). Partnering with AI: Intelligent writing assistance and instructed language learning. Language Learning & Technology, 26(2), 5-24.
[7] Huang, X., Zou, D., Cheng, G., Chen, X., & Xie, H. (2023). Trends, research issues and applications of artificial intelligence in language education. Educational Technology & Society, 26(1), 112-131.
[8] Van Wynsberghe, A. (2021). Sustainable AI: AI for sustainability and the sustainability of AI. AI and Ethics, 1(3), 213-218.
[9] Prastiwi, C. H. W., & Pujiawati, N. (2019). Penggabungan artificial intelligence dan kecerdasan alami dalam pembelajaran keterampilan menulis bahasa Inggris. In Prosiding Seminar Nasional Pascasarjana (Vol. 2, No. 1, pp. 172-178).
[10] Rukiati, E., Wicaksono, J. A., Taufan, G. T., & Suharsono, D. D. (2023). AI on learning English: Application, benefit, and threat. Journal of Language, Communication, and Tourism, 1(2), 32-40.
[11] Wei, Y. (2024). Household Expenditure on Education in China: Key Findings From the China Institute for Educational Finance Research-Household Surveys (CIEFR-HS). ECNU Review of Education, 7(3), 738-761.