Exploring the Applications of Large Language Models in ESL Learning

Yingyue Zhang

School of Foreign Studies, Nankai University, Tianjin, China
2310044@mail.nankai.edu.cn

Abstract. Artificial intelligence (AI) has been utilized in different fields to accelerate the acquisition of languages because of the fast growth and the growing complexity of this technology. One of the most accessible and applicable AI technologies currently is large language models (LLMs). The essay discusses the application of LLMs in the English as a second language (ESL) study with a focus on three types, including writing assistance, speaking and pronunciation support, and vocabulary and grammar enhancement. The researcher intends to investigate the primary applications of LLM in facilitating learning in these areas, assess the effectiveness of these practices, as well as identify existing issues and associated solutions through the analysis of the use of the AI in these three areas. It is hoped that the results will provide ESL students with practical recommendations about the ways to reduce risks and integrate the use of LLMs into the process of English language acquisition. Moreover, they act as a warning message of the issues and dangers of the misuse of LLMs in the ESL learning process and invoke a more serious and responsible method of using LLMs.

Keywords: ESL, LLM, English Writing, English Speaking, English Vocabulary and Grammar

1. Introduction

Due to the spread of technology, artificial intelligence (AI) is currently a common practice in the English as a Second Language (ESL) learning process [1], which receives numerous scholarly contributions and investigation. Being a form of AI, LLMs manage to enable natural language communication through understanding and answering human queries [2]. Consequently, they are now among the most convenient and helpful AI-powered tools in teaching ESL, and they play an enormous role in the field [3]. Trying to better advance their language proficiency, a lot of ESL students have begun using LLMs to supplement their English studies outside of typical classroom settings. Nevertheless, most of the existing studies are dedicated to the application of AI to ESL teaching, and they do not provide clearer and more specific guidelines on how to use LLMs. It is on this background, that this paper investigates the three key aspects of the ESL learning through the central role that LLMs play within ESL learning and answers two main questions: What are the specific ways that ESL students can effectively use LLMs to improve their English writing, speaking and pronunciation, as well as their vocabulary and grammar; and second, in as much as the deployment of LLMs is a nascent concept, have obvious limitations and challenges inherent to its

usage, what their solutions are. In the exploration, the study hopes to assist the ESL learners to be more systematic and critical on the adoption of LLMs in learning English language.

2. Writing assistance

The application of LLMs has the revolutionary potential in many fields with academic writing being one of the most notable [4]. Gayed et al. explained the utility of the generative AI in assisting the first step of writing among English learners such as brainstorming and organizing the content [5] whereas Alharbi was of the view that AI could help English learners to improve the lexical and syntactic variety when they revised their manuscripts [6]. Xiao and Zhi also discovered that ChatGPT (https://chatgpt.com) was a tool used in ESL learning as a help in key tasks, i.e. brainstorming, drafting, and refining [7] during collaborative writing. According to the above literature, LLM-assisted writing instruction for ESL students can be summarized as two major stages: prewriting and essay revision.

2.1. Prewriting

The initial stage of the writing process is referred to as prewriting whereby concept generation, construction and research begin. For ESL students, it is always a significant obstacle as it basically determines the tone and effectiveness of further writing. This is where ESL students can benefit greatly from the use of LLMs. Broadly speaking, the process of LLM helping prewriting includes three steps: ideation, which is the provision of the concepts to pupils who have none, illumination, which is the assistance in formalizing the vague ideas, and implementation, which is the assistance in detail enrichment [8]. Xiao and Zhi noted that ChatGPT could be used to conduct effectively brainstorming: When students explain their writing assignment to the AI, they can request the latter to present several feasible starting points [7], which suggests the role of the LLMs in the idea generation process. Furthermore, according to Wu, students who tend to leverage ChatGPT regularly report significant improvements in their academic essays, among which thesis statement is the most salient improvement [9], and this serves as the evidence of the specific approach of LLMs to the stages of illumination and implementation.

2.2. Revision

In addition to prewriting, the other major area where LLMs can aid ESL writing is revision: A well-defined thesis is the basis of writing, but ESL learners might fail to identify materials that are actually relevant to their chosen topics, rather than merely related to it, when gathering facts and information in English. Such confusion might also cause the drafts of vague ideas and incoherent linguistic content, and a "cognitive load" [10]. Nevertheless, students will be able to transform their drafts into those with better outlines and more focused subjects with the help of LLMs. The case under consideration, as an example, is that students can use certain prompts to have LLMs assist them with seeking potentially off-topic content in their drafts that would reduce the chances of digressions caused by the oversaturation of information and keep their writing tightly focused on their central points.

In a study, students who asked AI to make suggestions in their essays showed improvements in their coherence and logic in their essays [11]. The students can explain the connections among their thoughts towards the LLMs, allowing the models to provide a more suitable linking word and preventing their writings from being clumsy or discontinuous. With the help of LLMs, ESL learners

can not only communicate their opinions more effectively but also develop their arguments more naturally by guiding the readers through the text smoothly. The positive correlation with the use of paragraph transitions, both using transitional words and sentences, has already been estimated between the use of ChatGPT feedback and the use of paragraph transitions by ESL students [12].

Additionally, good and persuasive arguments are very essential in a logical essay. This may be achieved through the retrieval and organization of relevant data and examples in an efficient manner as it is exemplified through ChatGPT which has been demonstrated to make the effort of assisting ESL learners arrange events that support their arguments in a logical way [9].

A mature and professional piece of writing should also be free from grammatical errors Typically, LLMs are appropriate to identify typing mistakes, grammatical and syntactic inaccuracies and errors in the text in order to make it more precise and rigorous. It has been demonstrated that AI tools, through promoting grammatical accuracy and facilitating the lexical refinement, have a direct impact on the development of competencies required to write academic texts in English [13].

2.3. Challenges and corresponding solutions

Although very advantageous, there are also significant challenges associated with the introduction of LLMs in ESL writing, and some of them cannot but bring certain concerns: The main issue is that the system may produce incorrect or fabricated information. Research has shown that LLMs such as ChatGPT are capable of generating convincing but erroneous or even outright fake documents and this renders them unreliable writing aids [7,11]. Sometimes they even deliver inaccurate information "while projecting an unwavering sense of certainty" [14]. Hence, asking LLMs questions, ESL learners should not in any way consider them to be authoritative figures due to their professionalism; they need to question them with care to make sure that what they write is authentic and reliable. All the information given out by AI must be searched for and verified prior to application in writing.

Also, there is a significant risk of overreliance and the deterioration of independent writing ability. When used as a ghostwriter, LLM tools can foster dependency, potentially hindering the development of writing competencies and critical thinking [7,11]. Since students can pass AI written works as their own work and, moreover, without even examining them, this overdependence becomes closely linked with such significant threats to academic honesty as plagiarism and authorship conflicts [11]. Due to this use, ESL students can get the wrong impression that the English proficiency of the LLMs is their own, and this situation can result in ignoring practice and a gradual decline in their performance in real life. To address this issue, the teachers and students should collaborate. To assist students to adequately acknowledge the source of AI in their work and avoid committing academic dishonesty, teachers must discuss with them the ethical application of LLMs in academic writing and clarify the existence of red lines when utilizing LLMs in writing support [15]. In the meantime, students will have to inform their instructors regarding the way they used LLMs and in which areas of their essays [7]. The collaboration will lead to an increased standardization and productivity in the future collaboration of the ESL students and the LLMs.

3. Speaking and pronunciation support

3.1. Conversational practice

According to Krashen, the best strategies to be employed in enhancing speaking skills are defined by giving what is known as comprehensible input within low-anxiety contexts, especially featuring content that is appealing to the learners [16]. Nowadays, LLMs equipped with voice dialogue

capabilities, like ChatGPT, DeepSeek (https://www.deepseek.com), and Doubao (https://www.doubao.com), enable the users to begin voice conversations with LLM whenever they wish. Experiments have concluded that conversation with AI lowers tension and anxiety more efficiently than conversation with native speakers, particularly among low-level learners in the English language [17]. Furthermore, this input that LLMs provide is more individualized and communicative than English books or English language videos because students can instruct LLMs to mimic the speech patterns of their favorite characters, discuss specific subjects, or even simulate particular scenarios [18]. For instance, they can initiate a speaking practice by simply instructing the LLMs: "Can we pretend we are having an IELTS speaking test and you act as my examiner?" or "Can you speak in the style of Endeavour Morse?" Thus, conversational practice with LLMs is a valuable and effective resource for ESL learners in acquiring ideal English speaking proficiency.

3.2. Timely and personalized assessment

The learning of the English speaking skills also relies on the timely delivery of the assessment. Nevertheless, school English teachers tend to be incapable of providing immediate feedback regarding the spoken performance of every student because of the whole-class instructional model. In addition to the issue of timeliness, the element of subjectivity and inconsistency by human beings may also cause teacher-conducted assessments to fall short of their intended efficacy [19]. To alleviate the constraints inherent in human English teachers' assessments, LLMs can provide students with personalized assessments in a more objective perspective immediately after every voice interaction, including comprehensive features of the assessment, such as pronunciation, fluency, and grammar accuracy. The experimental results have supported the evidence of AI speaking assessments being highly accurate in speech recognition and pronunciation analysis, as well as its ability to identify syntactic errors and offer specific suggestions thereof; the ESL students have shown impressive improvement in their oral fluency and accuracy [20].

3.3. Challenges and corresponding solutions

Being a flawed technology that is still being developed, the use of LLMs as an assessment tool in English speaking still has certain limitations: The outputs of some of the LLMs are too positive and praise-oriented, which can serve as a source of complacency and, thus, can represent a limitation to further enhancement. To counter this, repeated and frequent practice with independent verification is recommended [14]. The other similar weakness is that they lack adaptive capacity. Even though the assessment feedback made to individual users is personalized, the advice provided by some LLMs is still set in a template, as it does not provide specific and detailed tutoring information about specific learners [20]. It may be resolved by using structured prompting techniques and stepwise query refinement, which will enable the model to give a more refined and context-related feedback [14]. Moreover, this technology presents several other flaws, such as the lack of adaptation of speech recognition models to non-native learners and so forth, indicating the urgency of promoting the given technology [21].

4. Vocabulary and grammar enhancement

4.1. Vocabulary learning material generation

The hypothesis of comprehensible input that is advocated by Krashen affirms that comprehensible input is one of the key and essential components in language acquisition in the second language

[22]. But mechanically memorizing pre-set words from textbooks is the complete reverse of comprehensible input. Luckily enough, nowadays LLM is able to serve as a linguistic converter, turning unfamiliar words into other material that can be understood to expedite the process of memorizing and vocabulary acquisition. In one of the studies, ChatGPT and ERNIE Bot (https://yiyan.baidu.com) were provided with 8 units of teaching materials in English and prompted to produce vocabulary learning materials respectively [23]. The results indicated that ChatGPT demonstrated high-quality performance in content elaboration (covering details such as explanations of word roots, affixes, or analyses of synonyms and antonyms), proving effective in supporting students' in-depth exploration of lexical knowledge; while ERNIE Bot provided more precise responses in terms of aligning with students' learning intentions, facilitating the extension of unit-based knowledge [23]. This also suggests a strategic approach for ESL learners: harnessing the synergistic potential of multiple LLMs to generate vocabulary materials for an enhanced learning experience and effect.

In the case of ESL children, the LLMs can take advantage of their outstanding story-making strengths to give them vocabulary learning stories that are of interest to them. Parents may feed an LLM a list of new words and request it to write a story using those words to ensure that children can learn as they pick up on the new words by having their parents read it to them [24]. Good results have been observed: Most of the parents stated that stories created by LLMs were not only interesting but also suitable to their children; the stories were able to enable the children to acquire new vocabulary incidentally [24].

4.2. Grammar instruction and quiz generation

The development of the ability to utilize English grammar in real communication is constrained both by the complexity of the grammatical knowledge itself, the limited teacher guidance, and restricted opportunities for interaction. Classroom instruction of ESL is not adequate enough to make students gain grammatical knowledge which will make them communicate effectively [25].

However, now, with the help of LLMs such as ChatGPT and DeepSeek, customized grammar assistance that extends beyond the traditional ESL classrooms is possible. The use of prompts like "Please explain this concept with examples" and "please generate some grammar exercises based on..." can make LLMs extracurricular grammar teachers to ESL students. They enhance independent grammar acquisition through helping students to revisit certain rules, explain some complicated concepts and compose exams on their areas of weak grammar skills, which consist of multiple choices and error-correcting items [3]. In contrast to an overreliance on textbooks, there is evidence of benefits of the use of the experimental results, and as a result, not only do the students manage to consolidate the knowledge they have gained in class, but the students are also seen to be more inclined to study the materials systematically, and learn more independently [20]. Moreover, it is also indicated that students who have undergone grammar learning with the use of LLMs also achieved great gains in their grammatical knowledge, as well as a decreased level of anxiety and increased levels of motivation and confidence [26]. To sum up, LLMs will be able to provide effective ESL grammar learning, which is more accessible, more engaging, and self-regulated.

4.3. Challenges and corresponding solutions

Research results show that various LLMs have unequal abilities to regulate the level of difficulty in the texts it generates. Examples of vocabulary and grammar that LLMs produce are not necessarily properly adjusted to the specifics of English in learners because the content they come up with can

either be too complex or too basic [23]. Also, ERNIE Bot's performance in some tasks is more in line with Chinese learners' expectations because its main user base and training data are rooted in the Chinese context; on the other hand, ChatGPT, with its larger local English corpus, might generate more authentic English output, particularly in terms of vocabulary explanations and sentence constructions [23]. One LLM may not produce learning materials that are entirely idiomatic or culturally neutral due to this inherent imbalance in data supply [23]. Meanwhile, some parents assume that most of the stories written for children are too AI-like and unrealistic, others even reckon that the content is absolutely absurd or illogical [24].

The same problem appears when creating grammar exercises: The problem of AI hallucination among LLMs is hard to eradicate completely and might create artificial texts [3]. All these are to suggest that it is not always advisable to entrust the entire responsibility of ESL vocabulary and grammar instruction to one model, and one should not blindly accept all the stuff provided by LLMs. A better solution is to use various LLMs and make required changes to generated texts to attain desired learning results.

5. Conclusion

The three primary domains covered by the use of LLMs in ESL learning that are explored in this paper are writing, speaking and pronunciation, and vocabulary and grammar. In terms of writing, the prewriting and revising of ESL students can be facilitated particularly well by LLMs and provide their essays with a better base and stimulate further progress. When it comes to speaking and pronunciation, they assist learners by providing voice-interaction dialogue and real-time personalized feedback that reduces speaking anxiety among learners and also provides more specific suggestions on how to improve their speech. Finally, in terms of vocabulary and grammar, LLMs have the ability to generate personalized learning materials and quizzes, which can increase the level of understanding of the materials and help students evaluate their level of understanding and quickly recognize any gaps in knowledge.

However, while the functionalities are comprehensive and benefits are evident, some challenges do exist, including AI hallucination, excessive using by students and plagiarism, overly formulaic assessments, lack of adaptive capacity, and inherent data difference. Although available corresponding solutions have been demonstrated, these issues are important cautions for ESL learners who use LLMs in English study to use such tools critically and thoughtfully.

It should also be acknowledged that this study has certain limitations. The findings are largely drawn from existing research and may not fully capture real-time challenges; the rapid evolution of LLMs indicates some observations may soon need to be updated. Yet it is precisely this rapid evolution that leads the author to believe that, as technology continues to improve and users enhance their critical engagement, the application of LLMs in ESL learning is promising overall.

References

[1] Lo, C. K., Yu, P. L. H., Xu, S., Ng, D. T. K., & Jong, M. S. (2024). Exploring the application of ChatGPT in ESL/EFL education and related research issues: A systematic review of empirical studies. Smart Learning Environments, 11(1), 50. https: //doi.org/10.1186/s40561-024-00342-5

[2] Large language model (LLM). - EBSCO. (n.d.).

[3] Hao, C., & Zhang, F. (2026). Understanding self-regulated grammar learning with LLM chatbot support: An epistemic network analysis of grammar learning strategy patterns. System, 136, 103879. https: //doi.org/10.1016/j.system.2025.103879

[4] Aydin, O., Karaarslan, E., Erenay, F. S., & Džakula, N. B. (2025). Generative AI in Academic Writing: A Comparison of DeepSeek, Qwen, ChatGPT, Gemini, Llama, Mistral, and Gemma. https:

//doi.org/10.36227/techrxiv.174137796.60885820/v1
[5] Gayed, J. M., Carlon, M. K. J., Oriola, A. M., & Cross, J. S. (2022). Exploring an AI-based writing Assistant's impact on English language learners. Computers and Education: Artificial Intelligence, 3, 100055. https: //doi.org/10.1016/j.caeai.2022.100055
[6] Alharbi, W. (2023). AI in the Foreign Language Classroom: A Pedagogical Overview of Automated Writing Assistance Tools. Education Research International, 2023, 1–15. https: //doi.org/10.1155/2023/4253331
[7] Xiao, Y., & Zhi, Y. (2023). An Exploratory Study of EFL Learners' Use of ChatGPT for Language Learning Tasks: Experience and Perceptions. Languages, 8(3), 212. https: //doi.org/10.3390/languages8030212
[8] Wan, Q., Hu, S., Zhang, Y., Wang, P., Wen, B., & Lu, Z. (2024). 'It Felt Like Having a Second Mind': Investigating Human-AI Co-creativity in Prewriting with Large Language Models. Proceedings of the ACM on Human-Computer Interaction, 8(CSCW1), 1–26. https: //doi.org/10.1145/3637361
[9] Wu, Y. (2024). Study on the Impact of Utilizing ChatGPT and Other AI Tools for Feedback in EAP Writing Classrooms on the Discursive Writing Performance of English Major Students. Transactions on Social Science, Education and Humanities Research, 4, 143–150. https: //doi.org/10.62051/4se95x52
[10] Bai, B., & Wang, J. (2021). Hong Kong secondary students' self-regulated learning strategy use and English writing: Influences of motivational beliefs. System, 96, 102404. https: //doi.org/10.1016/j.system.2020.102404
[11] Polakova, P., & Ivenz, P. (2024). The impact of ChatGPT feedback on the development of EFL students' writing skills. Cogent Education, 11(1), 2410101. https: //doi.org/10.1080/2331186X.2024.2410101
[12] Mahapatra, S. (2024). Impact of ChatGPT on ESL students' academic writing skills: A mixed methods intervention study. Smart Learning Environments, 11(1), 9. https: //doi.org/10.1186/s40561-024-00295-9
[13] Do, T. T. (2025). AI-assisted Academic Writing in a Blended EFL Setting: Practices and Perceived Effectiveness at FPT University, Hanoi. 2025 International Conference on Distance Education and Learning (ICDEL), 114–118. https: //doi.org/10.1109/ICDEL65868.2025.11193452
[14] Azaria, A., Azoulay, R., & Reches, S. (2024). ChatGPT is a Remarkable Tool—For Experts. Data Intelligence, 6(1), 240–296. https: //doi.org/10.1162/dint_a_00235
[15] Anghel, A.-S., Ion, D.-C., Petroiu, L.-M., Selea, T.-O., Tudose, C., & Boiangiu, C.-A. (2024). ETHICS OF USING AI FOR ACADEMIC RESEARCH AND PLAGIARISM. Journal of Information Systems, 18.
[16] Krashen, S. D. (1984). Principles and practice in second language acquisition (Reprinted). Pergamon Press.
[17] Kang, H. (n.d.). Effects of Artificial Intelligence (AI) and Native Speaker Interlocutors on ESL Learners' Speaking Ability and Affective Aspects.
[18] Hou, X. (2025). Self-Directed Use of Voice-Enabled AI Chatbots for Improving English Speaking: A Case Study with Doubao. 2025 5th International Conference on Artificial Intelligence and Education (ICAIE), 141–146. https: //doi.org/10.1109/ICAIE64856.2025.11158429
[19] Harsh, A., Prince, B., Siddharth, S., Muthirayan, D. R. P., Bhalla, K. S., Gupta, E. S., & Sahu, S. (2025). Enhancing Public Speaking Skills in Engineering Students Through AI (No. arXiv: 2511.04995). arXiv. https: //doi.org/10.48550/arXiv.2511.04995
[20] Xia, C. (2025). Research on College English Speaking Evaluation and Intelligent Tutoring System Based on Artificial Intelligence. 2025 International Conference on Computers, Information Processing and Advanced Education (CIPAE), 416–420. https: //doi.org/10.1109/CIPAE66821.2025.00077
[21] L'Enfant, J. (2024). AI as a reflective coach in graduate ESL practicum: Activity theory insights into student-teacher development. European Journal of Open, Distance and E-Learning, 26(S1), 1–9. https: //doi.org/10.2478/eurodl-2024-0003
[22] Krashen, S. D. (1985). Second language acquisition and second language learning (Reprinted). Pergamon Pr.
[23] Zhan, Y., Guo, J., & Yuan, F. (2025). A Comparative Study of the Efficacy of LLMs in Generating Learning Resources for Non-English Major Postgraduates. 2025 7th International Conference on Computer Science and Technologies in Education (CSTE), 838–842. https: //doi.org/10.1109/CSTE64638.2025.11091983
[24] Weber, J. M., & Valentini, M. (n.d.). Evaluating LLMs as Tools to Support Early Vocabulary Learning.
[25] Mirosław, P., Derakhshan, A., Mehdizadeh, M., & Kruk, M. (2023). Yet another look at strategies for learning grammar: Validating the Grammar Learning Strategy Inventory in the Iranian EFL context. System, 118, 103139. https: //doi.org/10.1016/j.system.2023.103139
[26] Kim, N., & Kim, H.-S. (2024). An Empirical Study on the Utilization of the Large Language Model, in English Education. International JOURNAL OF CONTENTS, 20(3), 48–61. https: //doi.org/10.5392/IJoC.2024.20.3.048