

The Application of ChatGPT in Second Language (L2) Learning Classrooms: Opportunities and Challenges

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Abstract. The paper investigates the opportunities and challenges of the application of ChatGPT in L2 learning classrooms. Since its first release, ChatGPT has fundamentally reshaped conventional perceptions of the capabilities attainable by large language models. One of its key applications is to assist L2 classrooms and facilitate L2 acquisition. The interactive conversational unique learning experience provided by ChatGPT in language classrooms largely changed the landscape of the traditional methods of language teaching and enriched the pedagogy study. Apart from opportunities brought by the chatbot, there are also challenges too. Although a large body of scholars has made endeavours in researching how to incorporate ChatGPT in L2 classrooms, most of the previous literature focuses on using ChatGPT to boost performance in particular tasks like writing or speaking, yet only a few have systematically discussed the opportunities and challenges to provide the big picture of the research in the field. This paper, therefore, provides a general review of both the opportunities and challenges brought by ChatGPT as a large language model in L2 teaching. It further points out some future directions that researchers might work on to make better utilisations of chatbots like ChatGPT and other similar NLP toolkits as well get a more insightful understanding of the issue.

Keywords: ChatGPT; L2 acquisition; Opportunities and Challenges.

1. Introduction

1.1. A Brief Introduction of ChatGPT

ChatGPT is a large language model created by OpenAI, aiming at facilitating human-like text-based conversations with users. Building upon the foundation of GPT-3.5 architecture, ChatGPT has been fine-tuned and optimised specifically for interactive and conversational tasks. It represents a significant milestone in the field of artificial intelligence and language modelling.

Since its first release, ChatGPT not only marked the great success of deep learning in natural language processing (NLP), but also created great potential for people from different industries and sectors with no professional knowledge of computer science to make full use of artificial intelligence in daily work. Firstly, ChatGPT could be easily accessed. Almost everyone can access ChatGPT through <https://chat.openai.com/>, as long as one has opened an account and become a registered user [1]. Secondly, the prompt of ChatGPT is very user-friendly as one could simply put in his or her question or instructions in the prompt and ChatGPT could provide the answer immediately, almost within seconds. No background knowledge of deep learning or coding is required to make use of ChatGPT. Thirdly, it is very efficient that it excelled or even surpassed its human counterparts in many text generation tasks. It usually only takes ChatGPT a few seconds or a few to generate a 1000-word text, which is much more efficient than human authors. Although the efficiency of text generation for ChatGPT might be dependent on various factors such as model performance and resources, prompt complexity, response length, model load time, and API required overhead, ChatGPT gives speedy and tailored responses to all questions. Finally, the quality of the response in ChatGPT is very high; the model showed its great potential in multiple text generation tasks such as coding, creative writing, doing simple calculating, text classification, and translation. It also proved to be extremely powerful in language-related tasks as it is intrinsically a text-generation model trained with numerous texts and language data, doing well in tasks such as customer support chatbots to provide 24/7 customer care



and support for customers, content generation, including writing blogs, finishing ILETS writing tasks, drafting emails, or creating schedules, translation in different languages, text summarisation, text editing and proofreading, document generation, code writing, and so. Overall, the extremely powerful language model is readily accessible to everyone, user-friendly, efficient, and provides quality responses. It opens a window for ordinary people to make full use of artificial intelligence.

1.2. A Brief Introduction to the Utilisation of Technology in Second Language (L2) Classroom

L2 acquisition, among many sectors of education research, has been the first to embrace technologies by making numerous attempts to develop tech-assisted language instruction. In the past 30 years or so, the unprecedented development in technology, especially in computer technology, has altered daily life as well as the ways of learning. Consequently, the utilisation of technology in L2 classrooms has drawn the attention of many scholars and has been widely discussed in existing literature. Many previous studies have discussed toolkits, materials, and other factors associated with computer-mediated L2 acquisition [2]. Lai and Kritsonis have discussed the merits and demerits of computerised tools in L2 classrooms to fully evaluate the efficacies of computer technology and Computer Assisted Language Learning (CALL) programs [3]. The research findings suggested that the application of technology could improve American learners' academic achievement yet many other factors like the economic burdens should also be accounted for in evaluating the total efficacy. Additionally, CALL programs encompass a broad spectrum of implementations, from interactive language exercises to sophisticated language learning software [4]. Research by Reinders and Hubbard in 2013 demonstrated that CALL programs provide learners with opportunities for autonomous, self-paced learning, leading to improvements in vocabulary acquisition and grammar proficiency [5]. Apart from using computers to assist L2 acquisition, portable electronics, including smartphones and tabs, have also been used in L2 learning, and Mobile-Assisted Language Learning (MALL) has also been specifically investigated. Kukulska-Hulme and Shield found that mobile devices could enhance L2 learner's learning experience and revolutionise language learning by providing learners with on-the-go access to language resources [6]. Research by Ma indicated that MALL applications, when used in conjunction with traditional classroom instruction, led to enhanced language skills and increased learner autonomy [7]. Chang and Hung unveiled that MALL applications are particularly efficient for instruction delivery among smaller groups of participants from the higher education sector [8]. Thirdly, Virtual Reality (VR) as well as Augmented Reality (AR) technologies now provide engaging experiences in language learning classrooms. According to Legault and his colleague's work, VR environments allow learners to simulate real-world language scenarios, and VR was found to be particularly helpful for students' vocabulary acquisition [9]. Moreover, the inducement of VR in L2 acquisition was found to be helpful in easing students' language anxiety and improving their speaking performance for learners of French [10]. Next, the integration of social media platforms into L2 classrooms has enabled learners to connect with native speakers and engage in authentic language use [11]. Platforms like Twitter, WhatsApp, and language exchange communities facilitate language practice and cultural immersion, as observed in a study by Mompean and his colleagues [12]. Fourthly, gamification elements in language learning applications have been found to motivate learners and stimulate their interest in language learning [13]. Apps like Memrise and Quizlet incorporate gamified features, including leaderboards and rewards, fostering a competitive and engaging learning environment [14]. Finally, online language learning platforms like Duolingo and Rosetta Stone have earned widespread recognition due to their accessibility and gamified approach to language learning. A study by Bende found that learners who used these platforms experienced increased motivation and engagement, resulting in higher language proficiency levels [15].

In summary, technology's integration into L2 acquisition classrooms offers diverse and promising avenues for language learners, from CALL programs to MALL, from VR to social media platforms, from online learning platforms to gamification and language learning apps. Previous research consistently suggests that technology-enhanced language learning can lead to improved motivation, engagement, and proficiency. As technology continues to evolve and since the release of the latest

powerful large language model ChatGPT, further exploration of the use of technology and its great potential in L2 classrooms remains a dynamic area of research.

With the long tradition of technology-assisted language learning, teachers and educators proactively applied ChatGPT in language learning since its first release. To date, how the large language model ChatGPT could be utilised and optimised in L2 classrooms has become widely researched and yet unsettled. First and foremost, there are some ethical issues since many students use ChatGPT to help them with their homework instead of using their original thinking. Moreover, scholars also point out there are both opportunities and challenges in using ChatGPT in L2 learning. Section 1 serves as a brief introduction. Section 2 will briefly introduce the argument around the utilisation of ChatGPT in L2 classrooms. Section 3 will discuss the opportunities and threats of using ChatGPT. Section 4 gives a brief conclusion.

2. A Brief Introduction of the Argument of Using ChatGPT in L2 Classrooms

Given the above-mentioned qualities of ChatGPT and its great potential in incorporating technology in L2 acquisition, many scholars have started to explore the possibilities of incorporating the state-of-the-art language model ChatGPT in language learning as it might be an efficient toolkit in improving the language learning experience, stimulating motivation, and improve learners' academic performance. However, there have been arguments around using ChatGPT in L2 acquisition. Firstly, there arises the issue of authorship, many previous studies have discussed whether ChatGPT could be included as an author for a scientific paper [16]. The consensus reached so far is that AI authorship could not be accounted as authorship as it does not qualify the criteria for authorship yet could be used for supportive writing as long as the author complies with research ethics. However, the argument around using ChatGPT in L2 classrooms is far more complex than merely authorship and research ethics. Despite its potential, ChatGPT in L2 classrooms also faces many limitations.

First and foremost, scholars noticed the risk of over-reliance on ChatGPT, which may deter learners from seeking human interaction, which is essential for language acquisition. Ethical concerns, such as the risk of inappropriate content generation, also need to be addressed [17]. Moreover, ChatGPT's inability to fully replicate the nuances of human communication, including non-verbal cues and cultural context, poses challenges in achieving authentic language learning experiences [18]. Nonetheless, ChatGPT's human-like communication skills might be misused for cheating in L2 classrooms, which might severely impact the teachers' fair assessment of all students' performance [19]. Recently, Turnitin unveiled an upgraded system capable of identifying text generated by artificial intelligence [20]. Additionally, there are also many other emerging digital tools designed to detect AI-generated content, such as GPT Zero (ibid). Recently, many American schools banned ChatGPT, showing zero tolerance for the chatbot [21]. Furthermore, there are critics regarding the authenticity of content generated by ChatGPT. ChatGPT has been scolded for not being able to provide references or citations, giving rise to the argument that its responses may not be entirely novel but instead represent rephrased content from undisclosed sources lacking proper attribution, potentially constituting plagiarism [22]. In conclusion, the debate over the use of ChatGPT in L2 classrooms has never ceased as long as its limitations and ethical considerations persist. The argument around appropriately using ChatGPT in L2 classrooms remains unsettled in academia. The present paper, therefore, intends to partly answer the question by providing a systematic review of the opportunities and challenges of applying ChatGPT to L2 learning classrooms.

3. A Discussion of the Opportunities and Challenges

3.1. Opportunities

This subsection will discuss all the possible implications of ChatGPT in L2 learning classrooms. First of all, ChatGPT excelled in providing ChatGPT provides timely feedback for many L2 learning assessments like conversation, writing, speaking, and listening. ChatGPT provides immediate feedback and correction to students' assessments, exceeding any diligent human teachers and tutors

in its efficiency. Firstly, ChatGPT could help with providing immediate L2 writing feedback. Yan explored the possibility of incorporating ChatGPT in writing assessments and essay instruction, evaluating how the developmental aspects of learning activities and students' reflective perceptions converged in order to assess the efficacy of leveraging ChatGPT for L2 writing students [20]. The results illuminated the advantages and potential relevance of incorporating this tool into L2 writing instruction. Moreover, the application of ChatGPT was also found to be able to enhance writing efficiency in an automated writing process (ibid). Moreover, ChatGPT also excelled in its conversational skills, which help learners with professional human-like conversation practice with appropriate linguistic expertise [21]. Finally, and most importantly, chatbots driven by artificial intelligence like ChatGPT have the capability to administer ongoing assessments and offer instant responses [21]. These elements are vital aspects of effective language learning. With the help of ChatGPT, learners have the opportunity to engage in real-time, interactive language practice as well as meaningful conversations, receive immediate feedback, and refine their speaking and listening skills [20].

Secondly, ChatGPT is able to provide tailored answers to the questions raised by the learners. When a student encounters difficult content, AI-driven chatbots can adapt according to the student's skill level, offering tailored learning resources, and recommending personalised learning journeys [22]. These chatbots can present a variety of phrases, queries, and lexicons that human learners might not possess, fostering a genuine and engaging language-learning atmosphere [20, 23]. However, the efficiency of the tailored answer provided by ChatGPT is found to be relevant to student's language proficiency, as digital literacy is a prerequisite for making use of ChatGPT in language learning. Nonetheless, teacher support more effectively fulfilled the need for connection but was less effective in fulfilling the need for independence.

Thirdly, ChatGPT has great accessibility as it is available 24/7. It could provide the language learners with whatever support they need to support L2 learning classrooms. There are many conveniences to employ it as an educational toolkit to assist language learning. Firstly, ChatGPT could be integrated into various platforms and services. It can be deployed through web browsers, mobile applications, and APIs, making it accessible to learners with various devices and connectivity options. More importantly, the prompt of ChatGPT is very user-friendly. The interface and natural language interaction of ChatGPT make it accessible to learners of all ages and proficiency levels. Its simplicity encourages engagement and reduces barriers for less tech-savvy students. Next, ChatGPT is capable of handling requests from different languages. To date, ChatGPT supports a plethora of languages, including but not confined to, English, Spanish, French, German, Italian, Dutch, Portuguese, Russian, Chinese, Japanese, Korean, and Arabic [1]. The multilingual capacity of the chatbot significantly broadens its accessibility for students from diverse linguistic backgrounds. It can assist learners in practicing their second language or even help with translation between languages. Finally, the accessibility of ChatGPT lies in its cost-effectiveness. ChatGPT can act as a cost-effective assistance for language learning. ChatGPT could be used freely, with no cost. Although it recently issued a new subscription plan, ChatGPT Plus that will be available for \$20/month, the option is on the learners themselves [24]. The free version is able to perform all the basic tasks for preliminary language learners.

3.2. Challenges

This subsection will discuss all the challenges and limitations of using ChatGPT in L2 learning classrooms. Firstly, the abuse of ChatGPT in L2 learning classrooms might cause students' over-reliance on technology and hence defer their independent thinking in second language acquisition. ChatGPT is so powerful that it might generate writing, finish a conversation, write a novel, and give immediate translations to the text put into the prompt within seconds, largely preventing learners from thinking independently about the tasks assigned to them and can hinder the development of automaticity in language learning. Moreover, chatbots like ChatGPT could only provide simulated interaction experiences, which, although valuable, don't necessarily replicate the unpredictability and nuance of human communication. Many required rhetoric and stylistic features in real-time linguistic

data, which proved to be very difficult for L2 learners to master even in teacher traditional classrooms will hence be ignored [25]. Additionally, using ChatGPT too often might make learners get accustomed to text communication and hence become unprepared for real-life interactions where non-verbal cues, cultural contexts, and unpredictable topics come into play.

Another drawback of the utilisation of ChatGPT in L2 learning classrooms is that it could lead to wrong information and misrepresented information, which proves to be a serious issue for L2 learners who lack the proficiency to distinguish right from wrong. Many scholars have discussed the issue that as a generative language model, ChatGPT might fabricate references and cite the wrong work in scholastic writing, especially for more advanced tasks like paper writing [26]. Moreover, the capacity of ChatGPT is limited based on the vast amounts of text it has been trained on. If the training data contains inaccuracies, misconceptions, or biases about the L2 language or its culture, the model might perpetuate them, and the students could be misled. The misleading information could not be double-checked or verified by professionals due to the vast amount of data used for training. Another deficiency of ChatGPT is that language learning, unlike many other kinds of learning, isn't just about words and grammar; it's deeply interwoven with culture. While ChatGPT is knowledgeable in many cultural contexts, it only understands the meaning within lines but misunderstands the cultural backgrounds and even occasionally misses cultural nuances or provides explanations that oversimplify cultural matters.

While ChatGPT and similar large language models offer a plethora of advantages in L2 learning, it's essential for educators and learners to understand both the opportunities and challenges for the utilisation of ChatGPT in L2 acquisition. It should be noted with caution that ChatGPT should only be used as a complementary tool and cross-reference with other reliable resources to ensure accurate and comprehensive learning.

4. Conclusion

In conclusion, this study briefly explores the opportunities and challenges of using ChatGPT in L2 learning classrooms and uses empirical study from a university to support the theoretical findings. While ChatGPT and similar large language models offer a plethora of advantages in L2 learning, it's essential for educators and learners to be fully aware of the threats and the cautions in using technology. If used appropriately, ChatGPT could serve as a powerful toolkit to assist L2 learning. Finally, the current study only focuses on secondary data and existing literature, which is limited due to the time and space. More future research could work in the field to track students' long-term performance after using ChatGPT to assist their language learning. Detailed first-hand study with empirical evidence might help us to get a more thorough understanding of the opportunities and challenges of incorporating ChatGPT in L2 pedagogy.

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