

Assessing the Impact of ChatGPT on Language Acquisition for University Students

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ABSTRACT : Recent developments in language processing have resulted in the creation of large language models, such as ChatGPT, able to generate human-like text. We provide an overview of ChatGPT and discuss its capabilities and limitations. For example, ChatGPT can produce coherent text on a variety of topics but may have difficulty understanding complex or abstract ideas. We then consider how ChatGPT can be integrated into university students' language courses and programs and the potential benefits and challenges of doing so. For example, ChatGPT can provide language instruction that produces language materials for learners to engage with. However, the use of ChatGPT in language learning may also raise issues regarding the potential replacement of human language teachers and the ethical implications of using machine learning systems to generate texts. Finally, we offer suggestions for future research on the use of ChatGPT in university students' language learning, such as studying the effectiveness of ChatGPT-assisted language instruction and exploring the pedagogical implications of using large language models in language classrooms.

KEYWORDS - ChatGPT, Natural language processing, Language learning, University student, Machine learning.

I. INTRODUCTION

In the realm of university student, there is an increasing fascination with the capabilities of technology to improve language learning experiences (Aljawarneh, 2020; García Botero et al., 2019; Hoi, 2020; Parmaxi & Demetriou, 2020; Shadiev & Yang, 2020; Sun & Gao, 2020). Among these technologies is ChatGPT, a member of the category of large language models (Kasneci et al., 2023; Perkins, 2023). Using sophisticated algorithms and deep learning methods, these models can produce written text that closely resembles that created by human beings (Brown et al., 2022; Khalil & Er, 2023; Schwitzgebel et al., 2023). While studies have investigated ChatGPT's potential in education, a thorough analysis of its impact on language learning among university students remains to be done. To create a strong basis for this study, it is essential to first explore the available literature on the subject. Previous studies on language learning and technology have examined the effectiveness of various tools and techniques in promoting language acquisition (Albiladi & Alshareef, 2019; Hoi, 2020; Shadiev & Yang, 2020). For instance, some studies have explored using chatbots and virtual assistants in language learning (Chuah & Kabilan, 2021; Huang et al., 2022; Jeon, 2021; Kim et al., 2019). However, the impact of large language models like

The study of ChatGPT's role in university student language learning is still in its early stages. Therefore, this research seeks to add to the existing body of knowledge by examining the potential advantages and challenges of integrating ChatGPT into university language courses and programs. Incorporating ChatGPT into language learning university student offers many opportunities for exploration and research (Atlas, 2023; Kasneci et al., 2023). A key research area would be evaluating ChatGPT's effectiveness in language learning through empirical studies. By comparing language learners who use ChatGPT with those who do not, researchers could identify the advantages of this technology. These studies could measure various language proficiency metrics such as vocabulary, grammar, reading comprehension, or speaking abilities. Additionally, assessing the accuracy and coherence of ChatGPT's generated text and detecting and mitigating potential biases or stereotypes in its output could enhance the safety and efficiency of utilizing ChatGPT in language learning. While the literature gap exists, the potential of large language models like ChatGPT in language learning is an emerging field of interest. ChatGPT, in particular, has gained considerable attention for its capacity to generate human-like text and has been proposed as a promising tool for language education. Therefore, this paper aims to fill this gap by providing a conceptual framework to understand the relationship between ChatGPT and language learning among university students. The goal is to examine the potential benefits and challenges of integrating ChatGPT into university language education.

To accomplish this goal, this paper will conduct a detailed literature review to investigate the current knowledge of ChatGPT and its implications for language learning. Furthermore, the paper will assess the potential uses and limitations of ChatGPT in language instruction and practice. By doing so, the study aims to contribute to the ongoing discussion on the role of technology in language learning, particularly in relation to ChatGPT and university students. Ultimately, this research seeks to encourage further studies, providing a deeper understanding of the relationship between technology and language learning.

In investigating the potential implications of ChatGPT for language education among university students, this paper will first provide an overview of ChatGPT and its capabilities. The subsequent discussion will explore the potential benefits and challenges of integrating such language models into university language education. The scope of this paper is restricted to ChatGPT, focusing on its potential applications and implications in language instruction and practice. It is important to note that this paper does not aim to comprehensively examine all existing large language models or language learning technologies. The primary focus remains on ChatGPT, providing a deeper understanding of its role in language learning within the university student context. Additionally, the paper will suggest areas for further research to contribute to the ongoing discourse on the impact of technology on language learning. This research aims to contribute to the ongoing discourse on the role of technology in language learning, particularly in the context of ChatGPT and university students. By examining the potential advantages and challenges of integrating ChatGPT into language learning, this study seeks to inspire further research in this field. The use of language models such as ChatGPT holds significant potential for university students, and to fully understand the benefits and drawbacks of their utilization, further research is necessary.

II. LITERATURE REVIEW

Background on ChatGPT and Other Large Language Models: NLP aims to bridge human communication and machine understanding. Large language models, such as GPT series developed by OpenAI, enable machines to generate text closely mirroring human expression. ChatGPT exemplifies progress in NLP, supporting language learning and natural interactions. Models like BERT by Google also contribute to this field, differing in pre-training and design approaches. **Importance of Language Learning in Higher Education:** In a globalized world, cross-cultural communication skills are critical. Higher education equips students with linguistic competencies through various language programs and innovative teaching methods. Technology enhances language education, offering personalized instruction and real-world practice. Advanced NLP technologies, like ChatGPT, can create interactive learning environments, making language acquisition more engaging and effective. **Overview of ChatGPT:** ChatGPT is a generative language model with a sophisticated transformer architecture, allowing efficient text generation. Its versatility makes it valuable for language learning, serving as a virtual tutor and providing personalized feedback. Fine-tuning capabilities further enhance its utility in educational settings.

Description of ChatGPT and Its Capabilities: ChatGPT exemplifies unsupervised learning in generating human-like text. It supports language learning by generating realistic dialogues and offering feedback. Multilingual capabilities facilitate translation and practice. However, the model may reproduce biases and generate incorrect information, requiring ongoing research and mitigation strategies. Despite challenges, ChatGPT can transform language education by creating interactive learning experiences.

III. RESEARCH METHOD

This study employs a multi-disciplinary approach, incorporating insights from linguistics, education, and computer science. An in-depth review of existing literature on natural language processing and the use of large language models such as ChatGPT in language learning precedes the analysis of ChatGPT's ability to generate human-like text. This involves creating test cases to evaluate its coherence, fluency in different topics, and handling of complex concepts. Comparing these results with other language models helps identify ChatGPT's strengths and weaknesses in this context. The integration of ChatGPT into university language courses and programs is then considered, including the development of strategies and curricula that incorporate the model and analyze its benefits and challenges in language learning. Exploring ChatGPT's potential applications in language learning involves examining existing examples and creating new case studies, highlighting its capabilities in generating language learning materials, providing feedback, and assisting with translation. A comprehensive review of the ethical implications of utilizing a machine learning system in language learning finalizes the methodology. This includes assessing the impact on human language teachers, the role of language learning, and the potential risks and benefits. The review informs future research and guides the creation of ethical guidelines for large language model use by university students.

As a result, the methodology outlines a comprehensive and interdisciplinary approach to studying the implications of ChatGPT for university student language learning and supports future research in this area.

IV. RESULT AND DISCUSSION

ChatGPT offers an array of applications in language learning, each with its benefits and challenges. This section provides several illustrations of ChatGPT's use in language courses and programs. These examples aim to demonstrate the potential advantages and difficulties of ChatGPT in language learning and inspire ideas for its various applications. Personalized language instruction is one potential application of ChatGPT. Using ChatGPT, language teachers can customize lesson plans and materials to meet the individual needs and interests of learners, thus enhancing the effectiveness and motivation of language instruction. For example, ChatGPT could create custom practice exercises for learners, based on their language proficiency, interests, and goals. These tasks could include gap-filling, sentence completion, and translation, tailored to each learner's needs and preferences. ChatGPT can improve language skills and boost learners' motivation by personalizing practice exercises. Another application of ChatGPT in language learning is creating authentic language material. Language teachers can use ChatGPT to generate genuine language content, such as dialogues, news articles, or reading passages, for learners to engage with. This improves learners' reading and comprehension skills by providing authentic language material.

For example, Chat GPT could generate authentic dialogues, news articles, or reading passages for learners to learn from and engage with. These materials could be used in reading comprehension exercises or writing prompts, giving learners opportunities to develop their language skills through exposure to genuine language content. ChatGPT can enhance learners' motivation to learn and overall language proficiency by offering such authentic language material. Exploring ChatGPT's potential in language learning for university students is a subject that requires further study and investigation. Beyond the areas already mentioned, there are numerous other topics to explore. Formulating new techniques and resources for utilizing ChatGPT in language learning is essential to tap into its full potential. These techniques and resources could encompass innovative methods for personalizing language instruction or generating authentic language materials. Developing such tools and strategies could enhance the effectiveness and efficiency of ChatGPT in language learning. The integration of ChatGPT into existing language learning programs and courses demands attention. Strategies for incorporating ChatGPT into current language learning programs and courses should be developed to ensure alignment with the goals and objectives of university student language learning. This might involve developing new curricula, teaching approaches, or assessment techniques that include ChatGPT.

In addition, there are potential new applications of ChatGPT in language learning that require further investigation. These include, but are not limited to, utilizing ChatGPT in language learning games, providing feedback on learners' writing, and assisting with language translation. Exploring these and other potential applications of ChatGPT will lead to a better understanding of the full spectrum of possibilities for its use in language learning. Researching the use of ChatGPT in language learning for university students is a worthwhile effort that offers new and innovative solutions to language learning challenges. Examining various aspects of ChatGPT usage, including new methods and tools, integration into current programs and courses, and the exploration of new applications, will allow us to comprehensively understand its potential and limitations in language learning. The inclusion of large language models like ChatGPT in university student language learning and instruction presents a thrilling opportunity for advancing the field. Its ability to deliver personalized instruction and create authentic language material underscores its potential to enhance the effectiveness and efficiency of language education. Nevertheless, the use of ChatGPT involves ethical and social considerations that must be addressed. The necessity for further research in this area cannot be overstated. Such research would offer insights into the potential benefits and challenges of using ChatGPT in language learning and help develop methods and tools that ensure its safe, effective, and ethical use. Evaluating the impact of ChatGPT on language teachers, learners, and society is necessary. Examining the ethical and social implications of using ChatGPT for language learning will help us better understand its role in university student education.

Assessing the accuracy and coherence of the generated text is crucial to ensure the effectiveness of ChatGPT in language learning. Both automated and manual evaluations should be employed for this purpose, and approaches for identifying and addressing biases and stereotypes in the technology's output should be developed. Assessing the limitations of ChatGPT in handling complex and abstract language concepts is another area of future research that requires attention. This would provide insights into the technology's strengths and weaknesses and help identify ways to address these limitations. Additionally, the potential for substituting human language

teachers with machines must be explored. The ethical implications of this substitution and the role of human teachers in language learning are critical to consider. Such research would determine whether replacing human language teachers with machines in language learning is desirable or necessary. In conclusion, the use of ChatGPT in university student language learning presents numerous opportunities for research and exploration. By addressing ethical and social implications, limitations, and areas for improvement, future research can unlock the full potential of this technology and enhance our understanding of its role in language education.

V. CONCLUSION

The potential of ChatGPT to impact language learning for university students is vast, making it a valuable subject for research and exploration. It is essential to thoroughly examine its potential benefits and challenges to leverage its advantages. Through empirical studies, the efficacy of ChatGPT for language learning can be established, providing crucial insights into its impact on language proficiency. Moreover, the ethical and social implications of ChatGPT for language learning must be thoroughly scrutinized, examining its impact on teachers, learners, and society at large. This can be done through qualitative or quantitative research methods, such as surveys, interviews, or focus groups. Doing so can garner a clear understanding of this technology's ethical and social implications. Developing evaluation methods and tools for ChatGPT's performance in language learning is crucial to ensure its safe and effective use. These tools can encompass evaluations of its accuracy, coherence, and bias in output. Furthermore, exploring the limitations of ChatGPT in dealing with complex or abstract language concepts is essential for a comprehensive understanding of its capabilities and limitations. Investigating the relationship between ChatGPT and language learning for university students can also be valuable. This can help determine how much ChatGPT can support language learning, providing avenues for future research. The potential for substituting human language teachers with machines also deserves consideration. Research in this area can examine the ethical implications of such substitution and the role of human teachers in language learning. Doing so can provide valuable insights into the necessity and desirability of such substitution. In conclusion, ChatGPT's potential for university student language learning is significant. Through further research, its benefits and challenges, ethical and social implications.

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