

ChatGPT: a New Tool to Improve Teaching and Evaluation of Second and Foreign Languages a Review of ChatGPT: the Future of Education

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ABSTRACT

Concerns about the future of education have been amplified in recent years as a result of the introduction of the innovative online application ChatGPT. Because they depend so much on written assessments, teachers of foreign languages experienced increased levels of worry, which were further made worse by the extensive publicity the topic received in the media. The current topic is centered on the significant debate that has taken place regarding the highly idealized capabilities of the chatbot. Therefore, the first thing that is going to be done in this article is to provide a complete explanation of the mechanics, functions, and common misconceptions about ChatGPT. This review paper aims to focus on positives and negatives that are associated with the employment of chatbots as the first topic that is investigated in this research. After that, a thorough investigation into the ways in which students and teachers may most efficiently make use of the chatbot is carried out. Some people believe that ChatGPT offers substantial opportunities for teachers and educational institutions to improve the ways in which they teach and evaluate second and foreign languages. In addition to this, it has provided academics with a number of new research paths to investigate, most notably in the field of customized education.

INTRODUCTION

In the rapidly evolving realm of technology, it is a rarity for a novel advancement to get attention and impact as swiftly as ChatGPT has managed to do. In a span of just over four months, this language model, driven by Artificial Intelligence (AI), has garnered significant attention worldwide. Its capabilities have sparked interest among many groups, ranging from academics to casual internet users. While those with a strong understanding and proficiency in technology express their admiration for its remarkable capabilities, the area of education has seen this advancement with a mixture of awe and concern. Numerous instances of cheating and misbehavior have garnered significant attention in the media (Muskat, 2023; Peritz, 2022).

In response to concerns over the use and potential abuse of ChatGPT, some educational institutions have sequentially declared prohibitions on the utilization of this recently developed conversational AI system (Reuters, 2023). Educators and school officials see ChatGPT as a potential catalyst for negative consequences, since it may impede students' progress in cultivating essential skills such as analytical thinking and written proficiency.

Nevertheless, when analyzing the historical progression of technological development, educators have consistently expressed apprehensions regarding the adoption of novel technologies. These concerns range from claims that Google search engines impede cognitive functioning and diminish intellectual capacity (Carr, 2008), to anxieties surrounding students' dependence on the perceived unreliability of information sourced from Wikipedia (Meishar-Tal, 2015), to the notion that smartphones have hindered students' ability to construct coherent and comprehensive sentences (Strain-Moritz, 2016). It is common for first studies on emerging technologies to have a mostly negative perspective (Kahn, 2011). However, historical evidence consistently reveals positive narratives around each technological advancement (Kaufman & McNay, 2017). The misalignment between anticipation and reality has been ascribed by psychologists to the inherent inclination of human beings to perceive the unfamiliar as a threat (Karlin, 2013, p. 217). Alternatively, it has been suggested that individuals and organizations exhibit a reluctance to embrace significant changes, a phenomenon commonly referred to as the "innovator's dilemma" (Christensen, 2011, p. ix). It should be acknowledged that educators' worries are really valid, as supported by Alhumaid (2019). Nevertheless, prematurely experiencing anxiety over the emergence of the new wave might perhaps lead to the disregard of the novel prospects and mindset it brings forth. In the context of second or foreign language instruction and acquisition, there is a prevailing notion based on anecdotal evidence that instructors express significant apprehension over the issue of unoriginal writing that eludes detection by current software solutions (Molly, 2022). This observation is consistent with the findings at my own educational institution, where English writing is a fundamental component of the curriculum. The faculty members at our institute universally express their disapproval of students relying on ChatGPT for their writing tasks. However, in order to have a comprehensive grasp of the potential risks and advantages, it is crucial to

possess an accurate comprehension of the emerging technology. Undoubtedly, ChatGPT has the potential to significantly disrupt and revolutionize the prevailing methodologies of instruction and evaluation within the realm of higher education. The proposed modifications may need research endeavors aimed at comprehending and effectively responding to the requirements of diverse stakeholders within the realm of language education.

LITERATURE REVIEW

An Analysis of ChatGPT: Defining its Capabilities and Limitations

ChatGPT is an advanced chatbot that utilizes OpenAI's Generative Pre-trained Transformer-3 (GPT3) models, which are renowned for their huge linguistic capacity. The chatbot has undergone refinement using a combination of supervised and reinforcement learning methods, as described by Radford et al. (2018). Supervised fine-tuning involves training a model using labeled datasets, as described by Lee et al. (2018). On the other hand, reinforcement learning is a methodology that enables a machine to interact with its environment in order to maximize rewards, while autonomously exploring many alternatives, as discussed by Verma and Diamantidis (2021). According to King and ChatGPT (2023), ChatGPT has the ability to participate in conversations with users in a manner that is both natural and responsive. The language model's neural network, which utilizes extensive datasets to establish diverse connection strengths, enables ChatGPT to generate text responses that closely resemble human language (MacNeil et al., 2022). Additionally, it allows ChatGPT to address follow-up questions, acknowledge errors, question incorrect assumptions, and decline inappropriate requests. Moreover, ChatGPT has the capability to produce content in several formats, including essays, humor, and poetry. By receiving ongoing feedback from users, ChatGPT is capable of improving its performance in comparable tasks, such as providing responses to similar inquiries.

In contrast to commonly held and idealized notions, it should be noted that ChatGPT does not engage in reasoning or emotional reactions while addressing user inquiries. Rather, it relies on the process of comparing available data in order to provide the most probable replies, often based on frequency and relevance. Therefore, the input provided by the end-user is crucial for ensuring the future precision of the system. Due to its underlying process, ChatGPT lacks the ability to comprehend the text it produces or the contextual information, leading to the generation of replies that may seem reasonable but are frequently inaccurate or incomprehensible (Thorp, 2023, p. 313). Previous studies and media outlets have raised concerns regarding the veracity of the information generated by ChatGPT (van Dis et al., 2023; Graham, 2022). Instances have been reported where ChatGPT has been observed to generate content in the absence of relevant knowledge and even fabricate fictitious sources (King & ChatGPT, 2023; Rudolph et al., 2023). According to van Dis et al. (2023), scholars have observed that chatbots possess a notable capacity for synthesis, but their skill is limited to learning statistical connections among words rather than comprehending their semantic significance (p. 615).

Therefore, ChatGPT can be described as an advanced text-generation search engine that does not rely on web crawling for real-time data (Rudolph et al., 2023). Instead, it specializes in emulating interactions between people (Azaria, 2022) and effectively filters out irrelevant information to provide users with the specific content they seek. There is little doubt that the search engine in question had significant strength. However, its capabilities are mostly limited to one aspect, evoking a sense of wonder similar to our first encounters with the search engine Google or Google scholar. The prevailing sense of uneasiness is mostly attributed to a limited comprehension of technology, leading to apprehension towards unfamiliarity (Carleton, 2016; McNaught, 1995).

Currently, it is rather easy to distinguish writings generated by a big language model chatbot (Graham, 2022; van Dis et al., 2023) due to discernible writing patterns. Furthermore, online tools are capable of accurately detecting such messages (van Dis et al., 2023). The prominent plagiarism-detection software, Turn-it-in, has announced its plans to include AI-writing detection into its existing system. According to Chia (2023), this enhancement is expected to be fully operational by 2023. In the context of teacher evaluation, the substance of AI-generated writing is sometimes lacking in depth, occasionally including inaccurate information and fabricated citations (Rudolph et al., 2023). Hence, it should not be a straightforward task for an essay written by an artificial intelligence to successfully navigate the critical evaluation of a diligent instructor. However, it is challenging to accurately predict the capabilities of the successor, GPT4. Initial indications, as shown by Adesso (2023), indicate that GPT4 has the capacity to closely replicate human thought processes. The projected degree of capacity associated with GPT4 has raised significant ethical problems, as discussed by Rudolph et al. (2023). As per a report by Business Insider (2023), Sam Altman, the president and CEO of OpenAI, expressed his commitment to ensuring the safe and responsible use of the next iteration of GPT. Altman emphasized that the release of the next generation of GPT would only occur if enough measures for its secure and responsible deployment had been established. At now, instructors of second or foreign languages have a limited window of opportunity to deliberate upon the moral and ethical utilization of chatbots. Engaging in discussions with students on the advantages, challenges, and potential hazards associated with chatbots is a more prudent approach than simply disregarding this subject matter.

METHODOLOGY

The phenomenon of major changes

ChatGPT has been identified as a significant disruptor in both the industry (Grant & Metz, 2022) and the realm of education. Nevertheless, the presence of disruptors is needed in order to instigate significant transformations inside the resistant education system. Ferster (2014) posited the hypothesis that if a student from the 19th century were to be placed in a contemporary classroom, they would have a notable sense of familiarity. Regrettably, a significant portion of the aforementioned observations continues to hold true throughout second language/foreign language classes in the present day.

According to Bunk et al. (2015), the majority of educators did not anticipate the necessity of conducting lessons online, and were even less inclined to express a preference for this mode of instruction. Initially, educators had discomfort when transitioning to online instruction during the onset of the global epidemic (Le et al., 2022). However, it did not take long for individuals to engage in conversations regarding the merits and advantages of online teaching and combined education (Kim et al., 2022). The occurrence of the education revolution, spearheaded by MOOCs, which stands for Massive Open Online Courses (Rudolph, 2014), transpired unexpectedly within a two-week period as a result of a viral outbreak (Impey & Formanek, 2021), and its effects have endured over time (Amit et al., 2022; Bettiol, 2022). Naturally, it should be noted that the efficacy of a new teaching strategy does not inherently surpass that of an older one. Each major method is undoubtedly useful within its specific historical context. However, as technology and society progress, there are corresponding shifts in the mindset of learners, leading to the emergence of new learner requirements.

The concept of the flipped classroom has garnered significant attention and enthusiasm within the realm of second language (SL) and foreign language (FL) education since its emergence twenty-five years ago (Lage et al., 2000).

Nevertheless, there is a prevailing reluctance among practitioners to readily embrace this method (Srvat & Pathranarakul, 2022), despite the growing body of evidence supporting its advantages (Turan & Akdag-Cimen, 2020), such as its ability to cater to the present requirements and preferences of learners. Whether individuals are in favor of it or not, the utilization of chatbot technology is poised to experience a surge in popularity among students, surpassing its current level of adoption. Hence, it is imperative for SL/FL educators to perceive disruptions as a favorable circumstance to enhance the efficacy of teaching and learning. This notion will be further elucidated in the subsequent section.

The advantages and opportunities

ChatGPT presents a diverse range of advantages and prospects within the realm of education. According to Rudolph et al. (2023), learners may derive advantages from experience learning due to the ability of ChatGPT to generate diverse problem-solving scenarios. Students have the option to avail themselves of personalized tutoring services offered by ChatGPT. AI-marking has the potential to alleviate the burden of grading for teachers, so affording them additional time to dedicate towards the development of lesson plans. ChatGPT provides significant advantages for learners.

The utilization of authentic language

In numerous English as Foreign Language (EFL) contexts, opportunities for utilizing the target language outside of the classroom are limited. In contexts characterized by a strong emphasis on examinations, such as Macao (Hong, 2021a), learners are exclusively exposed to contrived language exercises that do not align with the authentic usage of the target foreign language in everyday life. As ChatGPT demonstrates proficiency in emulating human interactions, individuals can readily engage with the system for learning purposes and

Engage in genuine dialogues with the chatbot. One advantageous element of this phenomenon is that learners often possess genuine inquiries, such as seeking inspiration for a project. Therefore, all the essential components required for a genuine dialogue, such as summarizing ideas, posing follow-up inquiries, seeking explanations, and providing information, will be there. Learners have the opportunity to engage in several facets of language usage, which is in contrast to the limited scope typically found in traditional classroom procedures. At the time of writing this article, a recently launched language learning program named "Speak" (<https://www.usespeak.com/>), utilizing the technological advancements of OpenAI, has been made available to the public. The application has the capability to offer learners an oral conversational experience that closely resembles interacting with a native speaker. The utilization of comparable applications can potentially enhance learners' understanding of foreign language (FL) pronunciation and phonology, which is frequently neglected in FL education (Hong, 2015, 2016).

Individualized language instruction provider

In line with the aforementioned points, ChatGPT possesses the capability to produce subjects for discourse and prompts for creative writing, hence facilitating students' creative expression (TESOL International Association, 2023). Significantly, ChatGPT has exceptional proficiency in the integration of a wide range of learning materials and services for its users. Several platforms and programs, including Grammarly, Wikipedia, Google Translate, and Quillbot, are utilized in conjunction with ChatGPT by learners. Therefore, this tool possesses the capability to identify linguistic and organizational deficiencies inside students' written work, providing them with writing suggestions and proposing necessary modifications (Ohio University, 2023). Additionally, it has the capacity to provide comprehensive explanations regarding the utilization of terminology, accompanied by illustrative instances. One notable advantage is the immediacy of feedback, in contrast to the generally time-consuming nature of teacher feedback (Hong, 2021b). Consequently, students may have already forgotten the content of their prior writing by the time they receive feedback. In conclusion, ChatGPT serves as a cost-effective and highly proficient substitute for human tutors. Given the inevitability of ChatGPT, it is imperative for educators and educational institutions to perceive it as a potential avenue for fostering innovation within the long-standing approaches to teaching and evaluation. Initially, it is advisable for SL/FL educators to decrease the number of writing tasks assigned to students outside of the classroom. This action is particularly crucial as the presence of readily accessible programs like Google Translate and Quillbot has significantly compromised the authenticity and credibility of numerous such assignments. If take-home assignments are deemed essential, educators have the option to select projects that are not readily susceptible to assistance from AI-chatbots. Examples of such tasks include composing daily diary entries, summarizing lecture material, or engaging in other forms of writing that involve conversion. As an illustration, I previously instructed students to

transcribe a brief segment of "Mr Bean," a British sitcom characterized by minimal dialogue, into a written narrative. The following tasks are not suitable for ChatGPT to engage in ghost-writing on behalf of pupils.

In the context of high-stakes writing examinations, it can be argued that in-class pen-and-paper writing represents a highly suitable choice. In addition, a writing work may be integrated as a component inside a broader assignment that encompasses several elements, including collaborative writing, oral presentations, and the creation of audio and video recordings. The discouragement of technology application should not be advocated, rather, the incorporation of technology in tasks is vital, as it mirrors the practical application of language skills that students are likely to encounter in real-world scenarios.

In relation to instructional approaches, it is imperative that flip classrooms be extensively adopted inside language courses. According to Turan and Akdag-Cimen (2020), the conventional structure of a flipped classroom involves students viewing instructional films outside of the classroom, while completing assignments or participating in activities within the classroom setting. The implementation of a flipped classroom model facilitates enhanced engagement and collaboration between educators and learners, fostering a student-centered approach to instruction and elevating the overall effectiveness of in-class learning experiences.

This technique facilitates a greater level of student agency in directing their own learning process, resulting in heightened levels of motivation and engagement. According to Chilingaryan and Zvereva (2017), flipped classrooms facilitate the acquisition of fundamental concepts by students outside of traditional classroom settings. This approach enables the utilization of class time for engaging in hands-on, collaborative activities that promote a deeper comprehension of the subject matter. The implementation of the flipped classroom model has the potential to enhance the efficacy of teaching and enhance student performance and attainment by facilitating increased chances for practice and the utilization of language skills, particularly in the domains of speaking and writing. Given the aforementioned modifications, it is conceivable that the education system may potentially capitalize on a significant prospect to transition away from an excessive dependence on summative assessments and instead include a greater number of preliminary evaluations (Dixson & Worrell, 2016). There is a growing recognition that formative assessments have a greater potential to enhance students' learning compared to high-stakes summative testing, which teachers have traditionally relied upon.

The research strategy refers to a systematic plan or outline of topics and objectives that guide the direction and focus of academic research. It serves although ChatGPT presents numerous possibilities for significant transformations in the field of education; a comprehensive exploration of its impacts remains mostly unexplored. The following are several significant domains that researchers are yet to investigate.

RESEARCH RESULT

The utilization of ChatGPT as an educational instrument

Researchers have the ability to investigate the experiences and perspectives of individuals who are learning a language by utilizing language learning applications. In the aforementioned portrayal, I presented a predominantly optimistic scenario wherein students engage in cheerful conversations with chatbots. However, it is important to acknowledge that language learners of varying competence levels may have diverse perceptions and experiences about the utilization of ChatGPT, hence yielding distinct advantages. Furthermore, learners may exhibit varying levels of receptiveness towards the novel technology and innovative learning approach. Furthermore, this study aims to examine the impact of engaging in conversations with ChatGPT on learners' proficiency in the four language skills: speaking, listening, reading, and writing. Additionally, it seeks to investigate the enhancements in grammatical accuracy, expansion of vocabulary, including the use of formulaic sequences (Hong, 2015), and changes in learner motivation, particularly in the affective domain.

The potential of ChatGPT to significantly advance personalized learning (PL) and personal learning environments (PLEs) is noteworthy, as these educational approaches have frequently faced criticism for their inability to customize content based on the specific requirements of individuals (Xu et al., 2023).

One of the primary rationales is that the development of Personal Learning and Personal Learning Environments necessitates a foundation grounded in extensive data and input from students. Nevertheless, several current systems lack these functions, rendering them indistinguishable from conventional online learning platforms. In contrast, chatbots possess a notable proficiency in both aspects, owing to their extensive repositories of data and continuous acquisition of knowledge through user feedback. Therefore, scholars have the opportunity to investigate the potential effects of chatbots on personal learning and personal learning environments.

Utilizing ChatGPT for pedagogical purposes

According to Rudolph et al. (2023), ChatGPT possesses the capability to assess student writing, provide recommendations, develop lesson plans, and produce various assignments, questions, and scenarios. Therefore, it is possible for researchers to examine the perspectives of instructors regarding ChatGPT as a tool for instruction, the potential for its use in reducing teacher burden, and the ways in which teachers are effectively utilizing the platform. Furthermore, it is crucial to engage in comprehensive dialogue and conduct thorough study into the ethical concerns and the impact on teacher professionalism that arise from the utilization of such technology. The question at hand is to the ethical implications of teachers utilizing curriculum ideas and materials generated by ChatGPT, given its reliance on pre-existing sources without regard for copyright considerations. What are the potential consequences for other stakeholders, such as educational institutions and materials software developers?

Additional growing issues in language teaching include: 1. Technology Integration: Exploring the use of technology in language instruction, such as online platforms, mobile applications, and virtual reality, to enhance language learning experiences. 2. Multilingualism and Multiculturalism

Additional research topics that could be explored include: i) the advancement of ChatGPT and its incorporation into educational settings, ii) the implications of ChatGPT on existing pedagogical approaches, such as centered around tasks learning and the implementation of flipped classrooms, iii) modifications in assessment methodologies to ensure the reliability of evaluations, iv) the impact of ChatGPT on the achievement disparities among students with varying levels of proficiency and/or diverse socio-economic backgrounds, and so forth. As technological advancements progress, it is expected that new inquiries will emerge regarding the capabilities and consequences of the technology.

CONCLUSION

In summary, it can be inferred that the aforementioned points collectively support the notion that. This article provides an in-depth analysis of the functionalities and common misconceptions surrounding ChatGPT, a widely discussed language model. Despite possessing significant skills, ChatGPT falls short of the cognitive and linguistic talents exhibited by human beings in their known form. Educators are advised to engage in conversations regarding the operational functions and underlying mechanisms of the chatbot, alongside addressing the constraints and challenges related with its utilization. The following are the fundamental principles upon which the establishment of guidelines for utilizing the application is founded. The prohibition of the application is currently feasible within the campus environment. Nevertheless, implementing measures to restrict students from utilizing the chatbot beyond the confines of the university proves to be a challenging task. In light of the unavoidable integration of technology, educators and educational institutions are urged to alter their mindset and modify their instructional methods and evaluation practices. It is firmly held that, subsequent to the initial surge of trepidation, educators would gradually recognize the favorable aspects of the modifications, so enabling them to wholeheartedly adopt the advantages and prospects presented by emerging technologies. In a similar vein, ChatGPT has provided researchers with a wide range of subjects to explore. The limitless potential of chatbot technology in the realms of education and research is undeniable.

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