Application of ChatGPT in Translation Teaching: Empowerment, Challenges, and Solutions

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ABSTRACT

In November 2022, a generative artificial intelligence system named ChatGPT was officially introduced in China. Leveraging its exceptional language capabilities and user-friendly operational mode, ChatGPT rapidly became a focal point of scholarly attention. In the realm of translation pedagogy, ChatGPT empowers educators, providing robust support to facilitate the advancement of pedagogical science and guiding the teaching community towards specialization. Simultaneously, ChatGPT also empowers students, offering substantial support for personalized learning and furnishing valuable reference and proofreading resources within the field of translation studies. However, the introduction of ChatGPT also brings about certain challenges, such as potential limitations on students' cross-cultural communicative competence, constraints on individualized development and creativity, and the possibility of technological misuse and academic impropriety. Therefore, the author proposes corresponding solutions. It is recommended that educators guide students in acquiring cultural education and background knowledge, lead students in exploring various translation methodologies, and provide personalized feedback and guidance, thus enhancing the effective development of translation pedagogy.

Keywords: ChatGPT, Teaching, Empower, Challenges, Solutions.

1. INTRODUCTION

Artificial intelligence has garnered widespread attention and found applications across diverse domains along with rapidly advancing information technologies. Among these, deep-learning–based natural language processing (NLP) has emerged as a particularly active research frontier. As a key application within NLP, machine translation has long attracted significant scholarly interest. Yet, conventional translation models still encounter limitations when handling complex syntactic structures and semantic contexts. To address these challenges, recent investigations have shifted toward leveraging ChatGPT, a deep-learning–driven conversational AI.

ChatGPT is an artificial intelligence application based on natural language processing technology. It utilizes deep learning techniques and employs a pre-trained language model to generate human-like dialogue text, demonstrating remarkable capabilities in various natural language processing tasks. The underlying principle of ChatGPT is its ability to generate contextually coherent language through extensive learning from large text datasets. In the field of machine translation, the potential value of ChatGPT has attracted considerable attention. Compared to traditional statistical machine translation models, ChatGPT excels in handling long sentences, complex grammar, and polysemy. Moreover, its understanding of context promises to yield more accurate translations, making ChatGPT a promising tool in translation pedagogy. The application of ChatGPT in translation accelerates the transformation of translation and foreign language education. Scholars like Wang Lifei and Li Zhao (2022) have suggested upgrading translation skills instruction to more comprehensive language service education, fostering the evolution of language translation teaching into a broader language services framework. Zhu Guanghui and Wang Xiwen (2023) have conducted in-depth analyses of the operational models and key technologies behind the large language model that powers ChatGPT, asserting that AI models have the potential to provide

solutions in fields such as simultaneous interpretation and multilingual education.

Despite its promise, ChatGPT's integration into translation teaching presents challenges. This paper thus explores its teaching applications and proposes strategies to mitigate potential drawbacks, aiming to offer fresh perspectives and methodologies for translation instruction and to advance the integration of machine translation technologies in education.

2. APPLICATIONS OF CHATGPT IN TRANSLATION TEACHING

ChatGPT can be applied in various fileds. It not only empowers teachers by promoting the scientific process of education and teaching but also provides personalized learning support for students. For teachers, ChatGPT offers data-driven decision-making support, aiding the progression of teaching towards a more scientific approach. Additionally, it provides professional feedback to teacherss, facilitating their ongoing learning and engagement in teaching research, thereby fostering the professionalization of the teaching team. From the students' perspective, ChatGPT offers substantial support, driving the customized development of personalized learning. Furthermore, ChatGPT serves as a valuable reference tool for students, offering translation suggestions, alternatives, and self-proofreading functions. Overall, ChatGPT injects vitality into translation education, continuously enhancing both teaching quality and learning outcomes.

2.1 Empowering Teachers

Since its emergence, ChatGPT has garnered widespread attention in the field of translation education. As a key figure in the educational process, teachers play a decisive role in enhancing the quality of translation teaching. Jiao et al. (2023) found that for high-resource languages, such as those in Europe, ChatGPT's sentence translation ability is comparable to that of Google Translate and DeepL. In contrast, studies by Rudolph et al. (2023) and Bang et al. (2023) point out that in low-resource translation scenarios (e.g., English-to-minor language translations), ChatGPT's performance is suboptimal. Its output not only contains mistranslations but may also include elements from languages that are not the target language. Therefore, given that English is a high-resource language (Bird S., 2022) , ChatGPT can

play a more significant role in Chinese-English translation teaching. It offers strong support to educators, thus facilitating the scientific and professional development of the teaching staff.

2.1.1 Fostering a Scientific Teaching Practice

The scientific development of teaching refers to the process in which teaching methods, strategies, and practices in the field of education gradually evolve towards a more scientific, systematic, and standardized approach. This development emphasizes teaching methods grounded in research, empirical data, and scientific principles such as educational psychology, with the goal of improving learning outcomes and teaching quality. In exploring the promotion of scientific development in teachers' translation teaching, data-driven decision-making has become an indispensable and crucial factor. In this context, the application of ChatGPT demonstrates significant potential. With the aid of relevant plugins, translation texts can be imported into ChatGPT. Through the analysis of the translation text data, ChatGPT can systematically identify common misunderstandings and challenges in certain types of translation texts. Additionally, based on specific students' translation assignments, ChatGPT can provide personalized analysis of strengths and weaknesses, assisting teachers in generating detailed analytical reports that can precisely optimize the teaching content.

It is clear that the application of ChatGPT in data-driven decision-making holds great potential in providing more scientific and personalized guidance for translation instruction. By analyzing large volumes of translation text data, ChatGPT helps instructors optimize teaching content, implement personalized instruction, and offer timely assessments and feedback. This integrated innovation provides educators with more accurate and efficient tools, promoting the scientific advancement of translation pedagogy.

2.1.2 Fostering the Professional Development of Teachers

The professional development of teachers refers to the ongoing process through which educators continually learn, grow, and enhance their professional competence, knowledge, skills, and pedagogical abilities throughout their careers (Zhong Qiqun, 2001). It is a continuous effort aimed at enabling teachers to better meet students'

needs, address the evolving challenges in the educational field, and provide high-quality education (Wang Changchun, 2001). As an advanced language generation technology, ChatGPT is offering unprecedented opportunities for the professional development of teachers. In educational practice, ChatGPT contributes to fostering teachers' continuous learning and deepening teaching research, thus injecting new momentum into the enhancement of teachers' professional competence and teaching effectiveness. ChatGPT can be seen as an insightful partner, engaging in dialogues with teachers. In the teaching process, discussions with ChatGPT on specific translation theories can further broaden teachers' perspectives. Additionally, ChatGPT can recommend learning resources and literature in related fields based on teachers' interests, encouraging them to maintain a proactive attitude toward continuous learning and professional growth.

ChatGPT plays an active role in promoting continuous learning and teaching research, making a valuable contribution to the professional development of teachers. Through interactions with ChatGPT, teachers are able to deepen their language knowledge and engage in teaching research, thereby enhancing their professional competence and teaching effectiveness. With the continuous advancement and application of technology, ChatGPT will pave the way for a broader path for the professional development of educators in the future.

2.2 Empowering Students

As one of the latest achievements in AI, ChatGPT has gained widespread recognition for its "intelligence and simplicity." Compared to previous, more complex AI systems, ChatGPT operates with natural language commands, significantly reducing the difficulty of use. This allows students to experience more closely the benefits brought by the development of the AI industry during their learning process. ChatGPT can provide personalized learning support for students, while also offering translation references and proofreading services for students engaged in translation studies.

2.2.1 Supporting Personalized Learning

Along with the rapid advancement in information technology, ChatGPT, as an advanced natural language processing technology, offers new prospects for providing personalized learning support for students. Through interactive dialogues with students, ChatGPT is able to gain deep insights into their learning interests, learning styles, and learning needs. Based on this information, ChatGPT can tailor personalized learning plans to suit each student's requirements.

ChatGPT holds significant potential in the domain of personalized learning support. Through interactive engagement with students, it can effectively identify individual areas for improvement and assist in the development of tailored learning plans that align with their interests and educational needs. Furthermore, it aids in structuring a coherent and efficient learning process. As technological innovations continue to advance, ChatGPT is poised to play an increasingly important role in education by offering more individualized and effective learning experiences.

2.2.2 Assisting Translation References and Proofreading

ChatGPT, as an advanced natural language generation technology, offers students translation references and proofreading assistance, with a wide range of potential applications. It can serve as a translation candidate tool, providing students with diverse translation options, which helps them better understand the source text and flexibly choose an appropriate translation. Additionally, ChatGPT integrates proofreading, substitution, and paraphrasing functions from software like Grammarly, Phrase Bank, and Collocaid. By posing questions, ChatGPT can proofread or polish translations, for example, by asking for more complex sentence structures or more idiomatic word choices. The characteristic feature of ChatGPT's machine translation function is the continuous refinement of translations through subsequent queries, offering translation suggestions to students, assisting them in optimizing their translations, and thus making them more aligned with the conventions of the target language. This enhances both the naturalness and fluency of the translation (Geng Fang, Hu Jian, 2023).

ChatGPT demonstrates considerable potential as a translation reference and proofreading aid in the context of student-led revision. By articulating their ideas in their native language and then leveraging ChatGPT for reformulation, paraphrasing, and refinement into the target language, students are able to enhance the clarity and sophistication of their output (Bishop, 2023).

This process holds promise for improving translation quality and fostering more advanced language expression among learners.

3. CHALLENGES IN TRANSLATION TEACHING FROM CHATGPT

The rapid development and adoption of ChatGPT have introduced both benefits and significant challenges to translation instruction. As a computational system operating through layered algorithmic processes, machine translation inherently entails information loss, particularly when handling nuanced linguistic and cultural elements (Hu, 2023). Furthermore, ChatGPT's training paradigm—relying on large-scale corpora without genuine cultural comprehension—limits its capacity to convey implicit meanings. Prolonged student dependence on such models risks impairing their intercultural communicative competence. At the same time, because ChatGPT generates output based on prevalent translation patterns and idiomatic usages drawn from existing data, it may constrain the expressive diversity and originality of both learners and instructors. Finally, the proliferation of high-quality, machine-generated texts in academic contexts has exacerbated concerns regarding integrity, as current detection techniques struggle to reliably distinguish AI-assisted work.

3.1 Erosion of Intercultural Communicative Competence

As a natural language generation technology, ChatGPT, despite its outstanding application potential in many fields, may have some limitations in promoting students' cross-cultural communication skills. Cross-cultural communication involves not only surface-level language translation but also an understanding of cultural backgrounds, customs, and implied meanings. However, ChatGPT cannot perceive or understand the subtle differences between cultures, and thus may overlook cultural meanings and factors in translation and communication. For example, when asked to translate "你吃饭了吗？" ChatGPT immediately provides the translation "Have you eaten?" In Chinese culture, this phrase is often used to express care and concern for others, rather than simply asking whether someone has eaten. However, ChatGPT fails to recognize this cultural nuance and only provides a simple question, "Have you eaten?" without capturing the emotion and intimacy embedded in the expression.

At the same time, many of ChatGPT's features can be a double-edged sword for students eager to improve their translation skills. By simply inputting natural language, students can easily meet their needs, which may lead to excessive reliance on the tool. This dependency could prevent them from actively learning the cultural characteristics and communication habits of the target language, ultimately affecting their ability to truly understand and integrate into different cultural contexts. As a result, students may neglect the importance of cultural background, hindering the full development of their cross-cultural communication abilities.

3.2 Constraints on Personalization and Creativity

As a language generation model based on a large amount of existing data, ChatGPT has demonstrated strong capabilities in many fields. However, its inherent nature, being based on patterns, may limit the development of personalized and creative thinking. The output of the ChatGPT model is constrained by the scope and diversity of its training data, relying heavily on existing data and samples. As a result, the generation process tends to follow these common patterns, leading to a lack of true innovation and creativity. This limits students' ability to think creatively and innovatively in the fields of language and translation. Long-term reliance on ChatGPT for translation references and proofreading may result in students struggling to break free from traditional ways of expression.

3.3 Risks of Misuse and Academic Misconduct

Although natural language generation models like ChatGPT have brought many conveniences, their use in academic examinations, assignments, and paper writing presents serious drawbacks. The fairness of academic assessment and the trustworthiness of the scholarly community are both threatened. Employing machine-generated content for exams and coursework can lead to academic misconduct. A Study.com survey of over 100 educators and more than 1,000 students found that over 89% of students have used ChatGPT to cheat, yet no reliable technical methods have been developed to accurately detect such behavior. The high quality and efficiency with which ChatGPT can complete academic tasks far exceed those of earlier problem-solving software, and its ability to

circumvent plagiarism checks makes it especially tempting.

4. SOLUTIONS

Although machine-generated technologies such as ChatGPT have potential applications in various fields, they still pose several challenges to translation teaching. Teachers should adopt diverse strategies in future translation instruction to ensure that the positive role of ChatGPT in translation teaching is fully utilized while minimizing its negative impacts, ultimately promoting the further development of translation pedagogy. To achieve this, teachers can guide students to understand cultural education and background knowledge, encourage the use of various translation techniques, and provide personalized feedback and guidance on students' translations, allowing them to leverage their agency.

4.1 Guiding Students to Explore Cultural Education and Background Knowledge

Teachers should emphasize the importance of cultural background and implicit meanings in translation, guiding students to critically examine cultural differences and contextual factors in translation tasks. By exploring the impact of cultural background and hidden meanings on translation, students will be encouraged to reflect on these aspects in their translation assignments. Teachers can select translation examples across different cultures, analyzing the cultural factors and implicit meanings involved. This will help students realize that translation is not only a language transfer but also an exchange and understanding of cultures. Through case studies, students can gain a deeper understanding of the cultural differences between languages and develop a more acute cultural awareness and communication skills.

In addition, teachers should encourage students to engage in cultural exchanges and first-hand experiences to better understand the differences between cultures. For example, organizing activities such as cultural exchange events or visits to different countries or regions can help students experience the challenges and joys of cross-cultural communication. These practical experiences will deepen their understanding of the importance of cultural differences and implicit meanings in translation, as well as help them adopt a sensitive and flexible attitude in intercultural communication.

4.2 Guiding Students to Explore Diverse Translation Techniques

In the field of translation teaching, while fostering students' translation abilities, teachers should encourage them to showcase their individuality and creativity, thereby promoting unique expression and innovative thinking in cross-cultural communication. Teachers can design open-ended translation projects, encouraging students to demonstrate their personal style and perspectives during the translation process. For instance, teachers may provide a text containing implied meanings and ambiguities, allowing students to translate it based on their understanding and perceptions. This encourages them to present personalized translation styles and creative ways of expression. Teachers should guide students to experiment with different translation methods and strategies, exploring non-traditional translation solutions.

Traditional literal translations often fail to convey the cultural nuances and emotional tones of the source language. Therefore, teachers can encourage students to use a variety of translation techniques to express the meaning and emotion of the original text in the target language. Through these non-traditional approaches, students can tap into their creativity, finding more expressive and compelling ways to convey the message.

4.3 Providing Personalized Feedback and Guidance

In the practice of translation teaching, teachers play a critical role in guidance and supervision. Teachers can provide in-depth individual discussions and feedback to understand each student's progress and challenges in translation. Through one-on-one communication, teachers can identify any difficulties, confusion, or obstacles students might encounter during the translation process. This also helps in the early detection and correction of potential academic misconduct, such as plagiarism or unauthorized collaboration. Furthermore, teachers can offer specific advice and guidance to help students use ChatGPT effectively in their learning and translation practices.

Teachers should explain the advantages and limitations of ChatGPT, illustrating its role and application in translation. Additionally, teachers can guide students on how to interact effectively with ChatGPT, and how to leverage its generated content for thoughtful reflection and innovation.

Teachers can also demonstrate various translation methods and strategies, showing students how to integrate the content generated by ChatGPT with their own ideas to create deeper and more creative translations.

5. CONCLUSION

The application of machine-generated content in education has drawn widespread attention. In translation teaching, ChatGPT empowers both teachers and students. It helps teachers advance their translation instruction toward a more professional direction, while also assisting students in progressing through their learning journey. However, ChatGPT also presents challenges to translation teaching, to which the author has proposed countermeasures. Teachers should regard ChatGPT as an auxiliary tool rather than a primary one, encouraging students to enhance their linguistic expression and translation abilities through active thinking and practice. ChatGPT brings new possibilities to translation teaching, but we must maintain a balanced approach to fully leverage its strengths. At the same time, it is crucial to focus on fostering students' independent learning skills, language proficiency, and cultural awareness. Through the combined efforts of educators and students, we can better tackle the challenges posed by ChatGPT in translation teaching, achieving more effective learning and teaching outcomes.

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