

The Application of ChatGPT in Translation Teaching: Changes, Challenges, and Responses

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Abstract: ChatGPT is a new natural language processing machine learning model with strong content production capabilities. ChatGPT has the potential to transform traditional translation teaching models, effectively assisting personalized teaching, promoting students' autonomous learning, constructing new teaching subject relationships, innovating teaching management models, promoting the transformation of knowledge production methods, and expanding the research space of translation education and teaching. At the same time, the application of ChatGPT also poses potential risks, such as weakening learning autonomy, alienating teaching subject relationships, damaging academic integrity, triggering knowledge security risks, ethical risks, and ideological risks. In order to address challenges and fully leverage the potential of ChatGPT in translation teaching, it is necessary to innovate teaching models, reform teaching processes, enhance students' self-learning abilities, strengthen translation ethics education and ideological risk education, and enhance the digital literacy of teachers and students. The new artificial intelligence represented by ChatGPT has strong teaching potential as a "human like teacher", but it cannot replace the human factors in education and teaching, thus cannot change the essence of education. In the future, teachers will still play an irreplaceable role in many aspects.

Keywords: ChatGPT, Generative artificial intelligence, Translation teaching, Digital literacy, Educational technology.

1. Introduction

ChatGPT is a new intelligent dialogue agent program developed by OpenAI, an artificial intelligence research laboratory in the United States. On the basis of integrating and training a large amount of data, ChatGPT has the ability to integrate comprehensive materials, form integrated perspectives, and engage in continuous dialogue with humans. These abilities make ChatGPT have broad educational application prospects. Previous studies have shown that ChatGPT can effectively enhance students' second language acquisition efficiency (Ali Bin Hady et al., 2023) and enhance their various language skills (Kohnke et al., 2023). Hu Jiasheng and Qi Yajuan (2023:4) pointed out that ChatGPT has upgraded from the initial stage of grammatical or syntactic processing of natural language texts to the advanced stage of logical, semantic, and emotional processing, from the operation of language form shells to the selection and judgment of language content and ideological essence. It is a knowledge processing tool with huge computational power, preliminary ideological and intelligent nature, and will have a comprehensive impact on foreign language education. Translation teaching is an important component of foreign language education. This article aims to explore the changes, challenges, and related coping strategies brought by ChatGPT to translation teaching, providing reference for academic colleagues.

2. ChatGPT and Translation Teaching Reform

As a new type of artificial intelligence, ChatGPT has broad application prospects in translation teaching, and has great potential in promoting personalized teaching development, reconstructing teaching subject relationships, changing

teaching concepts, and expanding research space in translation education.

1) Promote personalized development of teaching: ChatGPT can assist teachers in teaching according to their aptitude, customize personalized learning plans for students, and improve teaching pertinence. ChatGPT has strong dialogue ability and demonstrates good human-computer interaction efficiency. Teachers can use ChatGPT to conduct in-depth analysis of students' human-machine interaction traces in the translation learning process, comprehensively analyze the content direction, focus, discourse characteristics, and frequency patterns of students' questions, judge students' knowledge structure, learning style, learning motivation, and cognitive characteristics, and accordingly recommend learning resources for students, provide guidance on learning methods, and guide the path and direction of professional development.

2) Restructuring the relationship between teaching subjects: On the one hand, ChatGPT has given birth to a new type of teaching subject. Traditional artificial intelligence teaching machines adopt indexing, retrieval, and sorting working modes to respond to user needs, lacking flexibility, initiative, and interactivity. In comparison, ChatGPT has more outstanding information processing capabilities, semantic parsing capabilities, content generation capabilities, and sequence task execution capabilities. The execution ability of sequence tasks refers to ChatGPT's ability to understand the correlation between instructions based on the user's sequence instruction description, gradually advance tasks, complete complex tasks based on combined instructions, and thus better execute multi-step sequence tasks provided by the user.

On the other hand, ChatGPT has built a new type of interactive and interactive human-machine relationship. ChatGPT has gained powerful semantic analysis capabilities through deep learning mechanisms on the basis of large-scale

pre trained corpus, and has achieved the function of entering human contexts and understanding human language.

3) Transforming Teaching Concepts: After ChatGPT is introduced into teaching, students can utilize the advantages of its personalized content generation mechanism to easily acquire the translation theories, translation history, translation methods, translation techniques, and translation abilities they need, and ensure that the obtained knowledge meets individual needs from the source of professional knowledge production. The sovereignty, rules, strategies, and technologies for the production and supply of translation knowledge have shifted from the teaching organization end to the content generation end, and the supply of knowledge has gradually shifted from a single supply model for teachers to a multi subject supply model for humans and machines. The personalized production and acquisition of professional knowledge are becoming increasingly important.

4) Expand the research space of translation education and teaching: ChatGPT has been widely applied in translation teaching, changing the traditional dual subject teaching mode of teachers and students, and moving the translation classroom towards a “teacher machine student” ternary interactive and collaborative teaching mode.

3. The Challenge of ChatGPT to Translation Teaching

ChatGPT has great potential to transform the teaching mode of translation education, providing strong momentum for the digital and intelligent transformation of translation education and teaching. At the same time, it may also lead to the alienation of teaching subject relationships, posing ethical, knowledge security, and ideological risks.

3.1. Risk of Alienation of Teaching Subject Relationships

ChatGPT has the potential to fundamentally change the education and teaching ecology. The deepening, collaboration, and symbiosis of human-machine relationships have led to teaching presenting the characteristics of multi-agent, multi-space, multi-scenario, multimodal, and multiform. The boundaries between online and offline learning, embodied and detached learning, formal and informal learning have become increasingly blurred. How teachers and students can organically integrate into the new educational ecosystem is a key challenge that we must face. In translation teaching, if teachers and students cannot respond reasonably to the new changes in the education and teaching ecology, they may face the risk of alienation of the teaching subject relationship.

Secondly, there is the detachment of students. ChatGPT has a strong knowledge supply capability. Students only need to input questions to obtain rich learning resources and high-quality solutions, enabling them to easily complete learning tasks. In terms of translation learning, students only need to input the original text into ChatGPT to obtain an automatically generated translation, which requires extremely low time, effort, and intellectual costs.

3.2. Ethical Risks

Applying ChatGPT to translation teaching poses certain ethical risks, including data leakage risks, bias issues, and academic integrity issues. The first is the risk of data leakage. To solve specific translation problems, teachers and students need to input a large amount of relevant data and corpus. The

underlying logic and mechanism of ChatGPT processing these data and corpus are not transparent, and there is a possibility of data leakage or illegal exploitation. Secondly, there is the issue of bias. ChatGPT is a very large language model, and the accuracy of its information output is closely related to the quality of pre trained corpus. Translation activities need to follow professional translation ethics and ethical norms, such as maintaining objectivity, accuracy, neutrality, and respect for the original author, to ensure the quality and credibility of translation results. From this, it can be seen that ChatGPT clearly states that it does not have the ability to make moral or ethical judgments, which also suggests that we should strengthen the construction of professional review mechanisms to ensure the quality of translations. People, not artificial intelligence, are the decisive force in safeguarding translation ethics.

3.3. Knowledge Security Risks

Knowledge security focuses on the confidentiality, integrity, availability, and controllability of knowledge (Wen Dandan et al., 2011, p. 107). The production and dissemination of knowledge are important tasks in university education, so the integrity and availability of knowledge are the key to ensuring knowledge security in the process of university professional education. The knowledge generation results of ChatGPT are determined by its preset algorithm rules and pre trained corpus, and the algorithm does not have the ability to abstract cognition of the complex real world, so it may generate incorrect information. For example, by entering the command “Translate Chinese Mainland” in ChatGPT, the answer is: “Chinese Mainland can be translated as” Mainland China “, or simply as” China “. Mainland China implies “two countries theory”, which is detrimental to China’s sovereignty, and China cannot accurately express the specific political meaning of “Chinese Mainland”. Therefore, from the perspective of knowledge security, this answer does not possess completeness and usability.

3.4. Ideological Risks

ChatGPT adopts reinforcement learning technology based on human feedback, requiring a large amount of corpus to train the model to improve its learning ability and adaptability, thereby improving the fit between ChatGPT’s output and the human real world. ChatGPT is an artificial intelligence developed by American technological forces, and its pre trained corpus mainly comes from Western society and culture. Therefore, it is inevitably influenced by designers, developers, and operators, as well as by users under feedback reinforcement learning mechanisms. The knowledge it produces inevitably carries Western discourse characteristics and ideological imprints. Therefore, when using ChatGPT in translation or translation teaching, we need to improve our discernment ability and avoid entering the information cocoon woven by the Western discourse system.

4. The Path to Addressing Challenges

In order to address the potential risks caused by ChatGPT, it is necessary to build a harmonious teacher-student relationship, form an ethical risk management mechanism, enhance knowledge security maintenance capabilities, and establish ideological risk prevention and control barriers.

1) Strengthen emotional interaction and build a harmonious teacher-student relationship. Teaching is a process of emotional interaction between teachers and students. The

emotional significance and humanistic value generated during the process of thinking agitation, thought collision, emotional blending, spiritual exchange, and personality shaping between teachers and students are important content beyond knowledge impartation. ChatGPT does not possess self-awareness, subjective intention, and moral emotions. Although it can generate similar emotional information inspired by students' problems, it cannot resonate with students' thinking, emotions, and psychological rhythms according to the specific teaching environment.

2) Build a "Trinity" ethical standard system and improve ethical risk management capabilities

It is necessary for us to build a "trinity" ethical norms system, strengthen data ethics literacy, translation ethics literacy, and education and teaching ethics literacy. In terms of data ethics, it is necessary to strengthen the review of training data, use diverse and balanced data to train ChatGPT, reduce the risk of bias and discrimination from the underlying corpus, and improve the neutrality and objectivity of the data; In the process of using educational data, transparency should be enhanced to ensure that the data source and usage process are legal; Enhance data security awareness and consciously maintain the political, cultural, and ideological security of data.

In terms of teaching ethics, the first step is to form a new type of artificial intelligence teaching application guide that is suitable for translation teaching, clarify usage standards, and ensure the honest use of ChatGPT; Secondly, it is necessary to strengthen academic ethics education, guide students to form the concept of academic integrity, improve their awareness of academic norms, help students understand the serious consequences of academic dishonesty, and cultivate their academic integrity and self-discipline and autonomy; Once again, it is necessary to build a process based integrity management system. Given the universality of ChatGPT application, a reasonable mechanism should be formed, emphasizing integrity management throughout the entire teaching process and elements, and helping students form a habit of using artificial intelligence teaching methods in a reasonable manner; Finally, it is necessary to strengthen manual review, such as increasing the manual review and verification of students' translation exercises, translation exams, and translation practice processes. At the same time, reform the teaching evaluation methods, encourage students to create original content, and increase support for original content in process and final teaching evaluations. In addition, at the technical level, it is necessary to establish ChatGPT teaching application technology management standards, promote the technological development, upgrading, and innovation of academic integrity management systems, software, and tools, enhance the ability to identify academic dishonesty, and build a good academic ecosystem for ChatGPT teaching application by creating an effective academic integrity risk prevention system.

3) Guide students to establish a correct view of knowledge and improve their ability to maintain knowledge security. ChatGPT imitates the operational mechanism of human neural networks for knowledge production, but does not yet possess human thinking, logical ability, and cognitive level. Its logical foundation is designed and constructed by humans. As a digital mentor, ChatGPT answers students' questions in a "input output" cycle, providing knowledge supply services in a passive response state. This kind of knowledge is generated through algorithms, lacking human embodied

cognitive experience, and has not gone through the process of social practice from practice to practice, thus having inherent shortcomings. In view of this, teachers should guide students to recognize the essence of knowledge, establish a correct view of knowledge, make reasonable use of ChatGPT, and acquire knowledge, verify knowledge, apply knowledge, and internalize knowledge in translation practice.

4) Build a full process management mechanism to prevent ideological risks

Translation has the function of constructing values and often participates in ideological struggles between countries as a political and cultural tool. To prevent the ideological risks hidden in ChatGPT, on the one hand, teachers need to strengthen their own political learning, enhance their political awareness, literacy, and sensitivity, improve their ability to identify ideological risks, and enhance their post editing ability for the translated texts generated by ChatGPT; On the other hand, it is necessary for teachers to implement ideological risk management awareness throughout the entire process of translation teaching. In terms of curriculum design, teachers should strengthen ideological and political education in the curriculum (Fan Daqi & Sun Lin, 2023:87), organically integrate ideological and political elements into the translation teaching process, and improve students' political literacy. Teachers should play the role of "video diagnosis", strengthen manual inspection and feedback on students' post editing assignments, and help students improve their ability to handle ideological risks.

5. Epilogue

The application of artificial intelligence technology in foreign language teaching is an inevitable trend in the process of educational informatization (Chen Jianlin, 2020, p. 14). ChatGPT helps to achieve comprehensive upgrading and efficiency improvement of the intelligent education application ecosystem, Transform the concept of "promoting knowledge first to ability first, accelerate the reconstruction of all elements of education (data subject environment resources), reshape the entire space of education (physics information society), integrate the entire process of education (teaching learning management evaluation testing), and reform the entire evaluation of education (results process value-added comprehensive), thereby comprehensively accelerating the evolution of the education system" (Xia Lixin, 2023, p. 11). The new artificial intelligence represented by ChatGPT has strong capabilities as a "human like teacher", but it cannot yet replace the educational responsibilities and abilities of "human teachers", and therefore cannot change the essence of education. For example, the purpose of translation aesthetic education is to cultivate students' translation aesthetic ability and literacy, enabling them to recognize, experience, appreciate, and even create translation beauty. Translation aesthetics involves various aspects of translation, such as linguistics, aesthetics, literature, philosophy, sociology, psychology, and cultural anthropology. It has extremely high humanistic implications and requires teachers' knowledge structure, aesthetic taste, and cultural literacy. ChatGPT is inevitably unable to grasp this aspect. For example, although ChatGPT has certain advantages in evaluating the quality of translations and can quickly and accurately determine the language style of the translation and analyze the style characteristics of the translator, this translation criticism is essentially an automated information processing behavior based on existing corpus and preset

algorithms, lacking human emotional experience and subjective initiative and agility. In addition, the aesthetic analysis of poetry translation involves the rhyme, form, imagery, emotions, and rhetoric of poetry. Without human emotional experience and physical understanding, it is unimaginable. From this, it can be seen that the position of future teachers is still irreplaceable. What we need to do is to complement the advantages of human-computer technology and collaborate to promote the development of translation education.

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