ChatGPT's Reflections on the Changing Paradigm of Foreign Language Education

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Abstract: Artificial Intelligence (AI) technology is rapidly developing and increasingly used in many fields. Especially in the field of education, the use of AI technology is pushing the traditional education model to evolve in the direction of more intelligence and personalization. ChatGPT, as a model capable of understanding and generating natural language, brings new learning opportunities for foreign language education. As a model that can understand and generate natural language, ChatGPT brings new learning opportunities to foreign language education. The AI model represented by ChatGPT will certainly be deeply integrated into more foreign language scenarios to further improve the quality and efficiency of foreign language teaching. In order to cultivate talent more adapted to the development of the new era, this paper proposes that participants in foreign language education should change their teaching concepts and modes, recognize the potential problems and challenges, and promote the development of the foreign language education mode in the direction of being more intelligent and humanized, so as to realize the continuous improvement and optimization of the foreign language education mode.

Keywords: ChatGPT; foreign language education; reflection

1. Introduction

ChatGPT is a natural language processing model developed by OpenAI based on the GPT-3.5 architecture, which is a third-generation version of the Generative Pretraining Transformer. It adopts a transformer architecture, which is a deep neural network model based on an attention mechanism that encodes and decodes the input text through a self-attention mechanism to better capture the contextual information in the text. distorted outputs [1,2]. First, it learns a generalized language representation through pre-training with a large-scale corpus. The model was then fine-tuned on specific tasks and applied to domain-specific tasks. Finally, reinforcement learning makes the model highly flexible and comprehensive in terms of learning linguistic knowledge and structure, making it a potentially powerful tool.

With the gradual maturation of natural language processing technology, ChatGPT, a representative model, has demonstrated a wide range of applications in various fields including natural language processing, text generation, language translation, automated Q&A, and programming assistance. In the field of education, the ChatGPT is also becoming a promising auxiliary tool. Foreign language education has always been an important part of the education field and is of great significance to an individual's learning and career development. However, the traditional foreign language education model has some limitations, such as a fixed teaching schedule, a lack of personalized learning support, and real-time feedback.

Previous scholars have suggested in their research on AI in education and teaching represented by ChatGPT that ChatGPT's intervention in education ecology will bring fivefold risks of alienation of knowledge, alienation of students' subjectivity, alienation of the teaching process, digital ethics, and digital education governance; at the same time, there are potential risks in the ethical direction of the subject, relational ethical direction, algorithmic ethical direction, and the ethical direction of the resources. The authenticity of knowledge is

International Journal of Latest Research in Humanities and Social Science (IJLRHSS)
Volume 07 - Issue 02, 2024
www.ijlrhss.com || PP. 187-195

difficult to discern, the authority of knowledge is difficult to ensure, and there is a possibility that the fragmentation of knowledge will intensify and may even lead to the disintegration of universal knowledge[3,4]. Some scholars are also against the banning of ChatGPT, arguing that it can bring about an overall revolution in education and teaching, helping students to better master knowledge and improve learning efficiency. This suggests that allowing students to learn to use these technologies in the right and effective way to ensure that their learning process is meaningful and efficient is key to using AI to help learning[5]. Banning the use of ChatGPT is futile; schools must be open to technological change, assist teachers to work creatively with ChatGPT as a supplement, practice tailored instruction, and encourage and teach students to master and collaborate with ChatGPT, which can reduce load and increase efficiency by reducing the burden of routine work through automation and increasing the effectiveness of learning and teaching. At the same time, ChatGPT allows everyone to have their own AI assistant and personal learning consultant[6]. ChatGPT can promote talent training to be more contemporary, guide teaching and learning to achieve a win-win situation, and improve the academic research ability of talents. Artificial intelligence technology has unique advantages in mathematical reasoning, calculations, and proofs, providing highly accurate mathematical answers and proofs, providing smarter support in scientific structure, data processing, and conceptual understanding, and helping students to build a more complete framework for social studies learning and a sense of the human spirit[7-9]. In the age of intelligence, the effective utilization of AI technology represented by ChatGPT will continue to play a positive role in the change in higher education and the updating and evolution of innovative talent cultivation systems. The future of education requires a philosophical and rational eye, the construction of an educational brain, the formation of an educational eco-symbiosis, and the reshaping of academic production, all of which require users to scientifically and rationally grasp the essential characteristics and potentials of this technology[10,11].

In summary, at this stage, most of the research on the impact of AI on education has focused on whether ChatGPT should be academically banned, the impact of ChatGPT on educational ecology, the change of ChatGPT on school education reform, etc., and few studies have emphasized the change of ChatGPT on the foreign language education model. Combined with social reality, recognizing that the national requirements for the foreign language education model are increasing, but there is no practical, effective, and generalizable model combining ChatGPT and a foreign language education model, this paper focuses on the change of ChatGPT in the foreign language education model, focusing on the impact on foreign language education, and puts forward the thinking on the systematic and scientific cultivation model in order to further improve the research in this area. Research. This paper analyzes the current situation and potential advantages of the application of ChatGPT in foreign language education, and considers the advantages and innovations of ChatGPT-assisted foreign language education compared with the traditional mode of foreign language teaching, as well as how to provide effective guidance to foreign language learners using ChatGPT in the learning process. Through the study of the above issues, we aim to gain a deeper understanding of the changes and impacts of ChatGPT on the foreign language education model and to explore the potential advantages and challenges of its application in the field of foreign language education. At the same time, it provides relevant references and suggestions for practitioners and decision makers in the field of education to promote innovation and progress in the foreign language education model.

2. The state of the current foreign language education model

2.1 Traditional foreign language education model

The traditional foreign language education model has unavoidable limitations in some aspects due to the number of staff and other factors. Traditional foreign language education is usually conducted according to a fixed

teaching schedule and curriculum arrangement, which cannot balance the individual differences between learners. Each learner has different learning abilities, learning styles, and interests; however, under a fixed teaching schedule, it is often difficult for teachers to meet the learning needs of all learners, and they are unable to provide learners with targeted learning support. Some learners may experience excessive learning pressure due to their inability to meet their learning pace and insufficient time and opportunity to digest and master knowledge, or they may be bored with learning because of poor learning results due to maladaptation of learning methods and styles. The traditional mode of foreign language education easily affects learners' motivation, and is not conducive to the cultivation of learning motivation. At the same time, because of limited classroom time, traditional teaching is often unable to provide learners with timely, one-on-one accurate feedback and guidance, and it is difficult for learners to correct learning problems in a timely manner.

The traditional foreign language education model tends to emphasize too much on the learning of written languages and neglects the cultivation of learners' communicative competence. Learners may be good at reading and writing, but they may not be able to express themselves fluently and understand others in real-life communication, which ultimately leads to weak communicative competence. Lack of Practical Opportunities In the traditional foreign language education model, learners may lack practical language practice opportunities to use the language they learn in real-life situations. This prevents them from fully practicing and improving their communicative competences.

The limitations of the traditional foreign language education model are mainly reflected in the lack of personalized learning support, insufficient real-time feedback and guidance, and insufficient cultivation of language communication skills. These problems must draw the attention of the educational community to explore innovative and feasible teaching models and tools to improve the effectiveness and quality of foreign language education.

2.2 Impact of ChatGPT on traditional foreign language education

As a natural language processing model, ChatGPT is equipped with the ability to provide personalized learning support and can tailor appropriate learning plans and content according to learners' learning needs and interests, help learners learn in a targeted way, and provide personalized learning support and guidance for each learner. By analyzing learners' foreign language learning performance and feedback, ChatGPT can adjust the teaching content and methods according to learners' characteristics and progress, provide learning resources and exercises that are closer to learners' needs, and help them achieve more efficient learning.

ChatGPT is powerful in providing feedback and guidance to learners in real time and accurately. It helps learners to correct errors and deficiencies in language use and provides more appropriate usage. By interacting with ChatGPT, learners are able to actively ask questions and receive immediate and accurate answers and guidance, which effectively promotes active participation in the learning process, develops their self-directed learning habits, and improves their self-directed learning ability.

ChatGPT also provides learners with the opportunity to practice virtual communication by simulating real-life conversation scenarios, which helps improve their language communication skills and self-confidence. By practicing virtual communication with ChatGPT, learners can be exposed to language expressions of different cultures, learn authentic language usage and cultural knowledge, and improve their understanding and adaptability to cross-cultural communication. This further enhances learners' language application skills and cultural understanding, allowing them to use the language more flexibly and freely in actual communication. Communicating with AI greatly reduces foreign language learners' fear of expression as well as the cost of learning a foreign language and having a language partner who is always online and available for communication.

Meanwhile, communicating virtually with an AI such as ChatGPT, where learners are required to analyze and evaluate model-generated responses, and recognizing the differences between human brain language and machine language, helps improve learners' critical thinking skills. This exercise develops learners' ability to understand and judge information, enabling them to more fully analyze the nuances of linguistic communication.

ChatGPT's changes to the foreign language education model are mainly manifested in the advantages of real-time, accuracy, personalized learning support, real-time feedback, and guidance, as well as the promotion of cross-cultural communication and the improvement of language application skills through virtual communication practice. These changes help to improve learners' learning effects and learning experience and promote the development of foreign language education in the direction of becoming more intelligent and personalized. However, ChatGPT-assisted foreign language education has potential negative impacts and poses great challenges for both foreign language education participants and learners. There are still problems that need to be solved in the ChatGPT-assisted foreign language education model in order to make the ChatGPT-assisted foreign language education model well applied.

2.3 The Impact of Artificial Intelligence on the Development of Foreign Language Education Models and Reflections

ChatGPT uses natural language processing and deep learning techniques to understand user input in a natural human language to produce human-to-human conversations. Reinforcement learning from human feedback is a technique used to train large language models to startle conversations and answer questions as if the user were talking to a natural person. As a result, computers can analyze and modify their responses based on inputs from actual individuals[12-14]. The ChatGPT can understand the context and meaning of these words and provide correct answers based on this knowledge. Using ChatGPT, it is possible to build data training that can be relevant to its awakening from the field; ChatGPT can be customized for a specific field or job[15,16]. As a result, chatbots can provide responses to user inputs in a more accurate and relevant manner, providing opportunities for foreign language education improvement and convenience for foreign language learners. The development of AI models, such as ChatGPT, will have a significant impact on the future of foreign language education in the context of constantly updated and upgraded technology, and AI will change the mode of foreign language education and learning.
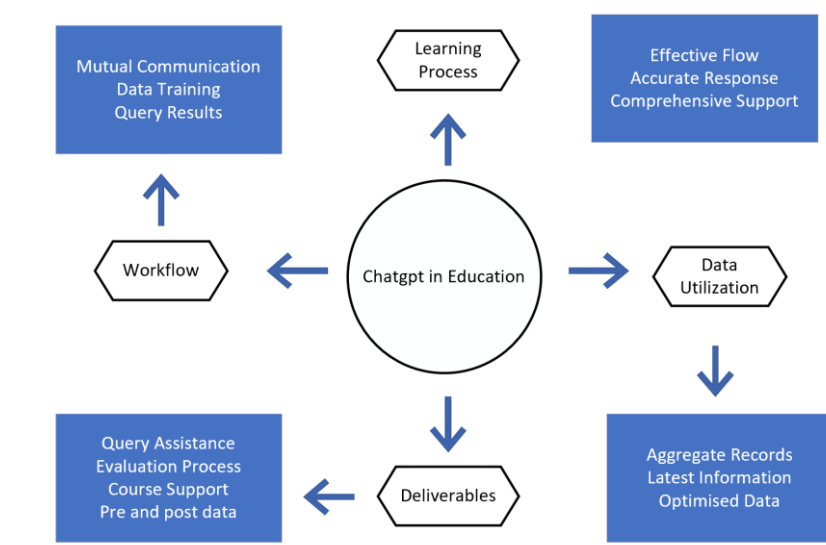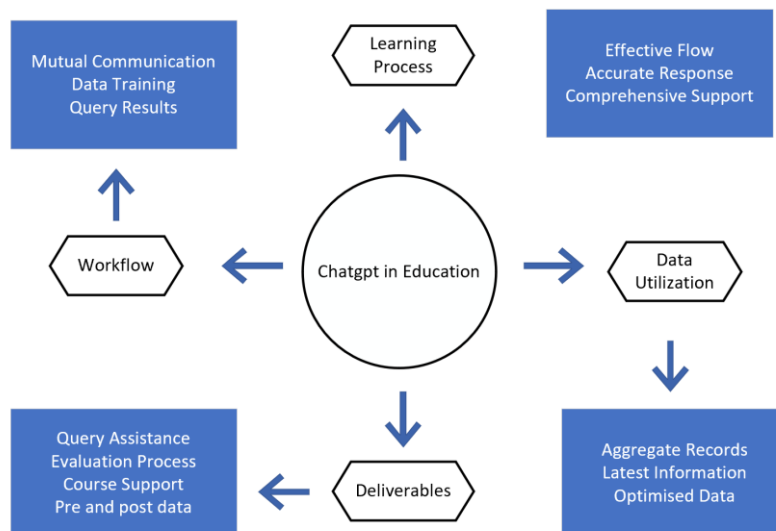

Figure1 Typical elements of the ChatGPT Education Domain Framework

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Figure1, ChatGPT contains numerous typical elements within the educational domain framework. To deal with the work structure of ChatGPT, it is necessary to streamline information and knowledge flow. It further reflects several related standards, service and learning processes, database features, workflow progression stages, and so on. The figure provides examples of the different working and progressive steps of the ChatGPT system to support the daily needs of the social structure.

At the same time, the use of AI such as ChatGPT has two sides: negative impacts and usage dilemmas. In order to cultivate foreign language talents who can adapt to the new era, therefore, asFigure2 shown, this paper draws attention to and puts forward thoughts on how to use ChatGPT to assist foreign language education and foreign language learning.
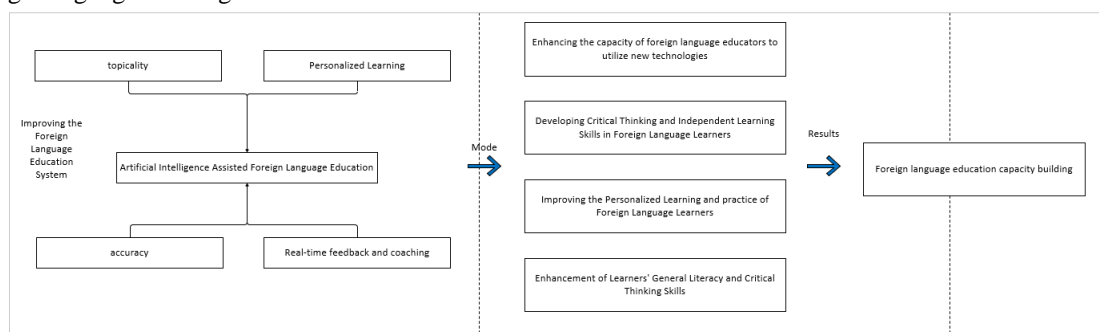

Figure2 ChatGPT's refinement process of the foreign language education model

2.3.1 Enhancement of the capacity of foreign language educators to utilize new technologies

ChatGPT has the potential to be a valuable educational tool, and its emergence has brought about an inevitable revolution in the field of foreign languages. It is important for educators to keep up with iterative updates and consider how to capitalize on these advancements to improve student learning as AI evolves and becomes more prevalent in the classroom. In the context of proper and sensible use of AI, foreign language educators can utilize ChatGPT to pose questions to discuss with students based on topics, historical events, ideas, etc.. It can be used to create course materials, provide task comments and answer student queries.ChatGPT has a strong grasp of the foreign language, which will enable the instructor to quickly ask interesting questions, discuss various aspects of the topic, and make it possible for each student to benefit from the class and learn new things at a different pace. To better understand a particular topic or idea, foreign language educators can use ChatGPT to

International Journal of Latest Research in Humanities and Social Science (IJLRHSS)
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provide a variety of examples as well as additional opportunities for practice. With the help of ChatGPT, it is possible to increase students' understanding of the new terminology and provide them with in-depth explanations. With very little human input, ChatGPT can compose everything from high school essays to computer programs, and can speed up the creative process and improve consistency, which provides clear and unambiguous instructions, assessment, and adjustments to the output, and make full use of ChatGPT as a tool. Although ChatGPT can provide real-time feedback and guidance, it cannot replace the teacher role. In traditional education, teachers are not only knowledge transmitters, but also emotional supporters and learning mentors. Therefore, over-reliance on ChatGPT may lead to a decrease in emotional communication between learners and teachers, affecting learners' motivation and emotional states. To solve this problem, educators should constantly maintain interactions and emotional connections with learners and encourage real-time communication and feedback between learners and teachers. Teachers should make full use of the advantages of ChatGPT to track and analyze learners' learning in real time, provide learners with more personalized learning guidance, and strengthen emotional interactions with learners during the learning process[17,18]. This can effectively maintain the emotional bond between learners and teachers, and enhance learners' commitment and motivation to learn. Simultaneously, ChatGPT provides teachers with more teaching resources and strategies to further improve teaching efficiency.

2.3.2 Focusing on the development of critical thinking and independent learning skills of foreign language learners

While ChatGPT may be a convenient and useful tool for learners, it should not be seen as the only source of knowledge or help, and there is always the risk that the use of AI will increase learner dependency. Owing to ChatGPT's powerful language processing and generative capabilities, learners may become overly reliant on the model to solve problems at the expense of independent learning and reflection. This may result in learners not having a solid grasp of the basic skills and knowledge of foreign language learning, and relying solely on AI cannot cope with more complex language communication scenarios. Educators must teach learners to use ChatGPT correctly as an assistive tool, not as a replacement for the learning process. Educators should encourage learners to take the initiative to think and solve problems, and develop their critical thinking and independent learning skills. Learners need to fully understand the answers generated by the model and judge and evaluate them based on their own knowledge and thinking rather than blindly accepting the model's answers. Learners should actively participate in the learning process to improve learning efficiency and fully utilize the advantages of AI-assisted learning, while maintaining an emphasis on independent learning and applying their own language knowledge flexibly in practice. With the help of ChatGPT and educators, learners will not only be able to cope with more complex language communication situations but also be able to use their foreign language knowledge more flexibly in practice. The positive impact of the ChatGPT in the field of foreign language education can only be realized when learners' critical thinking and independent learning abilities are enhanced under proper guidance.

2.3.3 Enhancement of personalized learning and practical skills of foreign language learners.

New technologies are constantly emerging, and great possibilities exist for the majority of learners who follow the trends of the times to study their own specialized disciplines through new technologies, using new technologies such as Artificial Intelligence to document their understanding of a foreign language while being able to do so through self-directed study and practice. ChatGPT can be used to guide and assist students in their learning by enhancing searches and providing personalized suggestions about materials and other learning resources. Its personalized lesson plans for each student help students to continue their education outside of class

and after school, as well as make suggestions for classroom learning. Learners should strengthen their own learning and practical skills by appropriately using AI to collaborate with educators to develop personalized learning plans and learning practices and by strengthening their own language skills, such as by treating ChatGPT as a tutor for opposing debaters or after-school tutoring. Unstructured data are a challenge in the age of the digital revolution, and it is more challenging to manage, organize, classify, and analyze [19,20,21]. Only through close cooperation between teachers and learners, combined with the advantages of ChatGPT, can we truly improve the foreign language education model and provide learners with more personalized and effective learning support.

2.3.4 Improvement of learners' general literacy and critical thinking skills.

The training of ChatGPT requires a large amount of data, which may involve private personal information. Simultaneously, the generative power of the model may be abused, resulting in dissemination of false information or inappropriate content. This poses challenges to data privacy and information security of learners and users, and there are non-negligible data privacy and ethical issues. To address these challenges, educational institutions need to increase their awareness of data privacy and ethical issues, set up regulatory mechanisms to regulate and limit the use of models, and ensure that models are applied in accordance with ethical and legal standards. Educational institutions should also provide relevant training and guidance to help learners use the ChatGPT correctly and avoid abuse and misuse. Learners should also strengthen their security awareness of privacy issues, safeguard their data, avoid privacy leakage, fully understand the limitations of the model, and not rely excessively on ChatGPT but rather learn in combination with other information and discriminative skills. In addition, learners should be cautious about online information, not blindly trusting model-generated content, but think and judge deeply. Improving learners' comprehensive literacy and discernment skills is an effective way to address data privacy and ethical issues in ChatGPT applications [22-25]. Educational institutions and learners work together to guarantee data security and rationality of information dissemination to ensure that the development of ChatGPT in the field of foreign language education can have a more positive impact.

Although ChatGPT has brought many innovations and conveniences to foreign language education, educators and policymakers need to recognize its negative impacts and take active measures to avoid and solve them. While reasonably guiding learners to use ChatGPT and focusing on the core values of traditional education and the humanization of education, the positive effects of ChatGPT in foreign language education can be better exploited.

3. Conclusion

ChatGPT has a broad outlook in the field of foreign language education, and its powerful natural language processing and generative capabilities bring many possibilities for innovation and improvement in foreign language education. With the rapid progress of science and technology, artificial intelligence will bring profound changes to the development of human society, and at the same time bring opportunities and challenges to the cultivation of foreign language talent. In the face of these changes, we should critically analyze the artificial intelligence represented by ChatGPT to fully understand its potential advantages and limitations. We need to examine these changes rationally, take the initiative to adapt to the new era of technological development, and make full use of AI to improve the foreign language education model. In the future application of ChatGPT, we should take into account the development of technology, teaching needs, and learners' interests, and balance the roles of AI and human beings to realize the sustainable development of ChatGPT in the field of foreign language education. Driven by technology, foreign language education participants should adhere to the humanistic educational philosophy and balance the relationship between technology and education to realize the sustainable

development of ChatGPT in the field of foreign language education, cultivate foreign language talents who are responsive to the times, and bring more positive and far-reaching impacts on foreign language education.

Declaration of Competing Interest: The authors declare that they have no known competing financial interests or personal relationships that could have influenced the work reported in this paper.

Acknowledgments: The authors would like to acknowledge all team members.

Author Statement: All authors agree with submission of this version.

Availability of data: The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request.

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