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OPPORTUNITIES AND CHALLENGES IN THE APPLICATION OF CHATGPT IN FOREIGN LANGUAGE TEACHING

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ABSTRACT

With the rapid development of information technology, artificial intelligence has shown great potential in transforming education. As a language processing tool, ChatGPT can not only answer users' questions, but also complete tasks set by them and continuously optimise their execution. This paper examines how ChatGPT can facilitate independent learning for foreign language learners and transform the role of foreign language teachers, based on the rationale for ChatGPT's empowerment of foreign language learning. Although ChatGPT has powerful features, it also faces some problems that need to be solved. The application of ChatGPT presents both opportunities and challenges in driving change in foreign language education; the emergence of ChatGPT provides teachers with the opportunity to reflect on their value as educators and places greater demands on them.

KEYWORDS: ChatGPT; foreign language teaching; opportunities; challenges

1. INTRODUCTION

Until the first half of the twentieth century, educational innovation seemed to prevail in this 'competitive' relationship with technological change, the most direct manifestation of which was the inability of technology to fulfil the role of the human being, positioned as an auxiliary tool for productive work or as an incidental criterion for the selection of human talent. The initiative of education in the face of technology is also evident. People believe that only with a quality school education can they master technology and meet the requirements of the relevant jobs in social production for human resources, in order to give themselves a place in social production (Zhong Binglin et al., 2023) [10].

However, with the iterative development of modern digital technologies, the relationship between technology and education seems to be becoming tense, especially since artificial intelligence technologies can largely replace human beings in social production, and the means, content, methods and even concepts and ecology of education are being affected. Instead, they want to adapt to a world of uncertainty, where educational resources are ubiquitous, professional mobility is rapid, lifelong learning is normalised and learning content is personalised, with the help of technology. The need for educational innovation was unsurprisingly amplified, especially after the November 2022 launch

of a text-based AI application called ChatGPT (Chat Generative Pre-trained Transformer), a product launched in November 2022 by US AI research lab OpenAI. ChatGPT is a language model that interacts with users in a conversational manner.[4] It performs deep learning and reinforcement training on human feedback, combining textual datasets in the form of artificial AI trainer conversations to generate a language model that approximates human text. In short, ChatGPT generates contextualised, flexible responses in user conversations, resulting in feedback that is close to human text. Since its release, ChatGPT has caused a rapid increase in widespread use by student users, driving the in-depth development of foreign language AI and bringing about a huge change in foreign language teaching. Unlike in the past, the impact of this breakthrough in AI on the education sector is even more intuitive, as ChatGPT not only replaces humans in key everyday tasks such as writing, conversing, programming and composing, but can also be trained by humans to be "smarter" than before, or even trained to be more "intelligent" than humans. The "smart" ChatGPT has undoubtedly shaken the social value of human beings and the value of modern education to them, prompting people to examine the value of this technology in the context of the demand for high quality development in education: what is ChatGPT? What opportunities can it offer for educational innovation? What risks and challenges does it pose for educational innovation? How can humans use ChatGPT and leverage the new artificial intelligence technology it represents to achieve greater educational innovation? These questions deserve further analysis and anticipatory answers from educators.

Similar foreign language AI products (e.g. English speech assessment, intelligent correction, machine translation, etc.) have been used in foreign language teaching long before the global ChatGPT boom, and they are very helpful in improving foreign language learners' listening, speaking, reading and writing skills. The potential of foreign language AI products in foreign language teaching and learning is therefore evident. As one of the hottest AI conversational robots today, ChatGPT is likely to become a new generation of innovative research and development and a milestone in foreign language learning tools in the future. This paper aims to illustrate how ChatGPT can be used for foreign language teaching and learning, to reveal the potential problems that ChatGPT can bring to foreign language teaching, and to deepen the knowledge and understanding of the usefulness of artificial intelligence in foreign language teaching.

2. Basic applications of ChatGPT in foreign language teaching

2.1 The case of ChatGPT in foreign language teaching

2.1.1 Intelligent Tutor System

An intelligent tutor system is essentially a computer-assisted system that can mimic the role and function of a teacher in the classroom using technologies such as natural language processing to provide real-time feedback and guidance to students. The system typically has knowledge related to a particular subject and can provide students with personalised teaching and learning support and appropriate learning strategies based on their characteristics. For example, knowledge tracking and multimodal computing are used in programming to design intelligent tutor systems to assist teachers

with intelligent, personalised instruction and provide support for their teaching. The intelligent tutor system applied in the MOOC platform courses imparted knowledge and provided personalised guidance to students according to their level of knowledge mastery, significantly improving the efficiency of students' independent learning [7].

2.1.2 Automatic scoring system

Automatic grading system is a computer-aided grading system based on artificial intelligence and natural language processing technology, which can automatically assess students' writing work and give corresponding scores and comments according to certain grading criteria and algorithms for better scheduling of learning programmes. For example, during the essay writing process, SentenceCoolCritique.com can review students' English essays, giving scores and comments as well as detailed analysis of the results [8]. Students can get timely feedback. Teachers can better understand their students' writing ability and progress, so that they can plan their teaching and tutorial programmes accordingly.

2.1.3 Teaching robots

A teaching robot is an intelligent educational tool based on artificial intelligence, robotics and educational theory that allows teachers to use robots to assist in teaching. It can mimic the behaviour of a human teacher and interact with students to provide personalised teaching and learning support through technologies such as speech recognition, natural language processing and computer vision, thus enabling students to engage more actively in their learning. The use of computers can facilitate student learning by imitating professional teachers in organising teaching and giving students personalised learning guidance. This generally includes a variety of functions such as diagnosing and analysing students' learning activities, suggesting personalised improvements and providing feedback to students. For example, in language education, speech recognition and natural language processing technology can help students with pronunciation correction, grammar correction and speaking training.

2.1.4 Classroom Analysis System

Classroom behaviour analysis refers to the use of cameras, sensors and other equipment to collect classroom data, obtain multimodal data such as verbal behaviour, non-verbal behaviour, physiological data and psychological data of teachers and students in the classroom, and then analyse and extract classroom information such as discourse structure, voice intonation, facial expressions, student concentration, teacher attention, teacher gestures and so on, to make a comprehensive evaluation of the classroom[11]. The analysis of students helps teachers understand students' classroom status and adjust classroom strategies in a timely manner; the analysis of teachers can help them reflect on the classroom and improve their teaching. For example, the structure proposed by Yang Xiaozhe for analysing classroom activities, behaviours and conversations, and the system proposed by Lu Yuanyuan et al. for analysing and evaluating teachers' emotions, postures and positions in the classroom are conducive to improving teaching.

3. The value of ChatGPT in foreign language teaching

(1) With a speech recognition engine: After students have read aloud foreign language material, a speech recognition engine can be used to convert the student's pronunciation into text and then input into the ChatGPT model to parse and provide feedback on the student's speech errors. This type of technology is called speech recognition technology. In addition, ChatGPT can analyse speech content and generate feedback.

(2) Conversational communication: Automated question and answer systems are natural language processing applications that aim to answer questions from users. ChatGPT simulates natural language conversations and gives students a platform for language communication. Students can enhance their language communication skills while receiving feedback and advice on grammar, pronunciation and vocabulary when talking to ChatGPT.

(3) Input practice: ChatGPT generates a wide range of language materials, including sentences, paragraphs and articles, which students can read and understand to improve their reading and writing skills and learn more about grammar rules and vocabulary.

(4) Intelligent writing assistance: ChatGPT can help students generate natural and fluent language, provide new ideas for writing, supplement writing words and phrases, and help students improve their writing skills. ChatGPT can also help students improve their writing texts by generating high-quality corrections and revision suggestions through natural language generation technology.

(5) Text translation: ChatGPT can help students to complete text translation between different languages, and the text translation generated by ChatGPT is basically faithful, fluent and correct, which helps students to expand their translation thinking and improve their translation ability to a certain extent. ChatGPT can also generate different versions of the same text for students to compare and choose from and even analyse the strengths and weaknesses of different text translations.

(6) Text summary: Text summarisation is the process of automatically summarising an otherwise lengthy text into a few sentences or words. The function of text summarisation helps students to understand the main points of a long and difficult text in a short period of time, speeds up the process of reading the text and provides key words and phrases that are central to the idea of the text. For example, some summaries can be generated using a language model generator such as GPT-2 to enable summary processing of long texts.

4. ChatGPT's opportunities for foreign language teaching

4.1 Help for foreign language learners

4.1.1 Provide opportunities for exchange and communication.

When foreign language learners learn a foreign language in the classroom, they usually receive the teacher's output, but have few opportunities to export their foreign language knowledge, and even fewer opportunities to communicate in a real foreign language environment [3]. In addition, due to the interruptions of classroom discipline and the rigid requirements of the teaching schedule, it is often difficult to achieve a balance between the output of the teacher and the input of the learner, resulting in a lack of opportunities for learners to practice and digest their knowledge over and over again. The interactive language theory of ELT emphasizes the collaborative effort of interaction between

language learners and other interlocutors, reflecting the benefits of the conversational AI ChatGPT in facilitating foreign language learners' communication. The ChatGPT provides learners with a realistic environment in which to converse in a foreign language, based on a large amount of foreign language material.

4.1.2 Easy access to learning resources.

ChatGPT can provide language learning materials at different levels of learning, such as vocabulary lists, conversation exercises, grammar lessons and other language learning resources to be used at different stages of learning. In terms of on-demand learning resources, ChatGPT can provide a useful and convenient reference website with names, websites, profiles and more. Compared to traditional paper books and training courses, ChatGPT offers learning materials that can be adjusted and assigned in difficulty to the individual learner's foreign language level.

4.1.3 Develop individualised learning strategies.

Learners can communicate with ChatGPT according to their personal interests and needs, and can ask ChatGPT for targeted training strategies for different foreign language skills. Learners' learning activities and learning process with ChatGPT can be controlled by them, and they can receive new input while reinforcing their memory and consolidating their learning in time to explore effective learning methods and approaches that suit them. For example, by communicating with ChatGPT, learners can not only get real-time help with English translation, but also improve their foreign language translation skills by comparing and analysing different translation results. After asking ChatGPT to translate the same English passage several times, learners can determine the most appropriate translation strategy by comparing the strengths and weaknesses of these different translation results and analysing the reasons for them [14].

4.1.4 Giving help to check and fill in the gaps.

ChatGPT identifies and fills in the gaps in students' foreign language learning, helps students balance the unmastered, under-understood and forgotten parts of the classroom, closes the language learning gap between foreign language learners and realises the possibility of independent learning progress for foreign language learners. In other words, it makes suggestions and corrective measures to help students improve their work and language skills. For example, it can provide advice and guidance on word usage, sentence structure and expressions for grammatical or spelling errors that learners make in their work, helping them to correct their language mistakes and improve their language skills.

4.1.5 Develop an interest in learning a foreign language.

ChatGPT can quickly generate a variety of interactive conversational responses based on the language learning objectives entered by the learner. This conversational approach to foreign language learning stimulates learners' interest, initiative and motivation. As a conversational bot focused on intelligent language learning, ChatGPT demonstrates excellent semantic understanding, accurately understanding the user's questions and requests, as well as being able to link up and down in multiple conversations.

The longer and deeper the conversation between the learner and ChatGPT, the more interesting and beneficial the conversation experience becomes for the learner, so that they can actively engage in second language communication activities in a relaxed learning atmosphere and draw on their sense of achievement and happiness in learning a foreign language.

4.2 Help for foreign language teachers

According to ELT, teachers can play many roles in teaching and learning, including planner, manager, controller, participant, assessor, resource provider, etc. ChatGPT is quietly shifting the traditional conception of the teacher's role. As technological tools continue to be integrated in teaching and learning, there is a need to redefine and expand the roles that teachers play. When exploring the changing role of teachers in the AI era, it is important to also consider the role of AI tools in teaching and learning. The widespread use of AI tools has created many new opportunities and challenges for teachers. On the one hand, AI tools can act as assistants to teachers in the teaching process, providing them with a wealth of resources and support to help improve the effectiveness and efficiency of teaching and learning. On the other hand, AI tools are also quietly changing the roles and responsibilities of teachers. Instead of simply passing on knowledge, teachers are taking on more of a mentor and tutor role. So where is the teacher moving from his or her formerly important role as 'dialogue partner' and 'feedback provider'? The answer is that the role of the foreign language teacher is becoming more supportive and monitoring of the learning process, guiding the mental processes and emotional states of learners, designing more engaging classroom activities and making sound pedagogical decisions based on the data provided by AI. The application of conversational AI in foreign language learning is a relatively recent development, and more time is needed to define the changing role of the teacher, but it is foreseeable that the future of teaching will have to focus more on human-computer collaboration and teacher-student interaction.

As AI tools become more widely used in teaching and learning, the role of the teacher is changing. Teachers are no longer knowledge transferors in the traditional sense, but act in multiple roles as planners, managers, participants, assessors and resource providers. AI tools create more opportunities and challenges for teachers to help make their teaching more effective and efficient. However, the irreplaceable nature of teachers remains, as they inspire students' learning potential by building authentic and deep relationships with them. In the future of education, the combination of teachers and AI tools will become a new model of teaching and learning, working together to provide better support and guidance for the holistic development of students.

4.2.1 Resource providers - resources and teaching materials support.

Language learning resources, teaching materials and curriculum design support for foreign language teachers to help them better prepare and implement their teaching activities. Empowering research and teaching activities, ChatGPT provides teachers with initial lesson plans with general and organised content, saves time in initial collection and integration of materials, provides multiple translations and

simulates conversations with learners [1]. It assists teaching and research activities and lesson planning in the following ways.

Teachers can ask ChatGPT about specific topics to get quick ideas for syllabuses, lesson structures and classroom activities. Teachers can also use ChatGPT to retrieve teaching materials and collate literature to produce relatively comprehensive course materials, and can use ChatGPT translators to use other languages in the classroom.

ChatGPT automatically generates relevant content to improve the efficiency of teachers' lesson planning. For example, to the question "I want to teach learners the rules of virtual voice changes in English, can you provide me with a detailed syllabus?" The ChatGPT response contains three sections: Explanation, Practice and Summary. The Practice and Summary sections contain three modules: Basic Principles, Special Cases and Sentence Practice, with different types of questions.

4.2.2 Conversation partners - speaking practice and writing guidance.

Assist foreign language teachers by providing speaking practice and writing coaching services to help students improve their speaking and writing skills and enhance their language expression. For example, in response to the question "What are some authentic phrases and proverbs for speaking English on the topic of staying up all night?" ChatGPT lists phrases and proverbs related to staying up late and provides examples of spoken English related to staying up late.

4.2.3 Assessors - automated assessment and feedback.

ChatGPT helps foreign language teachers to assess students' learning outcomes and language proficiency, providing targeted feedback and advice to improve students' language knowledge and skills. ChatGPT also helps teachers to assess learners, observe their progress and automatically check their language proficiency, allowing teachers to keep track of their students' progress and shortcomings.

Through the mock dialogues with ChatGPT, teachers are able to get an initial grasp of the key issues in students' learning and are prepared to solve them in advance. For example, in response to the question "What are the difficulties of the virtual voice in English that students may wonder about?" ChatGPT lists the regular and irregular variations of verbs, homophones and reminds teachers that these variations need to be memorised individually by students.

4.2.4 Participants - virtual teaching and interactive experiences.

ChatGPT helps foreign language teachers interact and collaborate with their students through web-based and online tools, providing a more flexible and diverse teaching style and experience. Virtual teaching also offers foreign language teachers a more diverse approach and experience. In the past, teaching often relied on classroom instruction, with teachers imparting knowledge through the blackboard and lectures. With virtual teaching platforms, teachers can use multimedia technology to

provide students with lively and interesting content, stimulating their interest in learning and increasing their motivation. At the same time, foreign language teachers can also use online tools to design a variety of interactive games and activities to allow students to learn through games and improve their learning effectiveness. Through such diversified teaching methods, students will be more actively involved in the teaching process and gain a more comprehensive language learning experience.

5. Possibilities for educational change

The following is an analysis of the potential educational changes that ChatGPT technology can bring about from the following perspectives.

5.1 Improve teaching management

ChatGPT technology is one of the new technologies that educational institutions are increasingly adopting to improve the management of teaching and learning [5]. ChatGPT technology, a chatbot-based technology, can help educational institutions to manage the teaching and learning process more effectively by helping them to automate management, reduce manual intervention and improve teaching and learning efficiency. For example, ChatGPT technology can help educational institutions automate student attendance management, automatically detect student learning, automatically post assignments, automatically collect assignments, and automatically grade assignments.

Technology can also help educational institutions to better manage student learning by helping them to monitor students' learning in real time, identify learning problems and take timely action to address them.

The problem. In short, ChatGPT technology can help educational institutions to manage the teaching and learning process more effectively, increase teaching efficiency, improve student learning and provide more convenience for educational institutions.

5.2 Improving traditional teaching methods

ChatGPT is a natural language processing-based technology that helps teachers to understand students' questions and ideas more intuitively, to access their individual learning needs, and to automate the provision of accurate answers to guide their learning. ChatGPT technology can also help teachers manage their classrooms more easily and effectively control student behaviour to improve teaching and learning outcomes.

5.3 Enhancing the learning experience

Firstly, ChatGPT technology can provide more explanations of points outside of the classroom and provide more examples to help students understand the content; secondly, ChatGPT technology can provide more guidance and prompts, as well as real-time guided feedback and advice to help students complete tasks more effectively; and finally, ChatGPT technology can provide more interactivity. Finally, ChatGPT technology can provide more interactivity by providing a wider range of questions

and answers, even across disciplines, to help students better understand concepts. In summary, ChatGPT technology can make a huge difference to the learning experience, helping students to understand the content, complete tasks more effectively, and provide more interactivity.

5.4 Improving learning efficiency

On the one hand, ChatGPT technology is an emerging chatbot technology that helps students by simulating a human chat conversation, which not only engages students' interest but also facilitates more effective learning and understanding of new knowledge, ChatGPT technology can provide more effective learning options for students to use based on their questions and answers. ChatGPT technology can also provide additional learning support such as more learning materials (e.g. videos, articles, images, etc.), more learning guides, etc., which can help students understand more quickly and effectively.

6. Problems with ChatGPT in foreign language teaching applications

6.1 Reduced intercultural communication skills.

ChatGPT is based on large-scale data and focuses on the external form of language rather than the internal culture. If the training data is not culturally communicative or even culturally stereotypical, ChatGPT may output texts that do not conform to the rules of intercultural communication, resulting in misleading learners and lowering their intercultural communication skills, thus failing to achieve the desired intercultural communication effect. Although ChatGPT is useful for human-computer interaction, relying on ChatGPT alone is not conducive to the development of learners' intercultural communication skills, and learners cannot learn to switch and apply different intercultural communication strategies according to cultural contexts and communication situations.

6.2 Weakens the ability to self-correct.

In terms of whether ChatGPT can correct specific errors in students' work, it responds that it can detect and point out errors in students' work, but it cannot directly edit or correct errors in students' work. It can make suggestions and corrective actions to help students improve their work and language skills. For example, it can provide advice and guidance on word usage, sentence structure and language expression for grammatical or spelling errors made by students in their work, helping students to improve their writing skills and expression. Nonetheless, students need to read its suggestions and corrections carefully and make their own revisions and corrections. In addition, students themselves need to identify and understand their mistakes in using the foreign language and avoid making the same mistakes again whenever possible. In such a process of feedback and learning, students can gradually improve their language skills, but there is also a risk of failing to correct mistakes and making them again and again.

6.3 Difficult to ensure the accuracy of the content.

In machine translation, large-scale language models need to handle a large number of conversions between different languages, which can lead to challenges in terms of translation accuracy and fluency.

For example, some phrases or words may not have direct equivalents in the target language, requiring machine translation systems to use contextual information to infer the correct translation. In speech recognition, large-scale language models need to handle a wide range of different speech inputs, including different accents, speeds and intonations, which can lead to challenges in the accuracy of recognition of speech input.

6.4 Cheating and academic misconduct.

ChatGPT can assist students in completing their coursework, but it can also raise concerns about integrity. The problem of students using ChatGPT to help with cheating, writing assignments and essays on their behalf is already present in education, and is particularly evident in universities. A survey in the US showed that 89% of university students surveyed admitted to using ChatGPT and that it was difficult for teachers to tell if an assignment was completed by ChatGPT. The development of photo search software in China, such as Homework Help and Little Monkey Search, is the best evidence of the problems faced by ChatGPT, which has greatly facilitated the learning process, but due to poor self-control of students and poor supervision by teachers, it has become a tool for some students to take advantage of, leading to inert thinking and loss of independent thinking skills, and eventually the Ministry of Education requested that it be taken offline for rectification. The combination of education must address the issue of plagiarism, otherwise it will create inequity and produce students who are unmotivated, uneducated and brain-degraded risks.

6.5 Limitations of use.

Generative AI systems, as represented by ChatGPT, still face many limitations. Firstly, when using the system, it is difficult to make sense of the intrinsic logical relationships, and it is easy to generate incorrect content. At present, large-scale language models do not fully understand knowledge systems and relationships in the same way as humans do, and such misinformation can lead to misleading or cognitive impairments for learners. Second, the current large-scale language models represented by ChatGPT are weaker in understanding Chinese text than English, and there are biases in Chinese-English translation. This gap can lead to difficulties or errors in comprehension by non-native Chinese learners and cause cognitive bias in native Chinese learners. Finally, the large-scale language model represented by ChatGPT is subject to seat-of-the-pants errors and redundancy of steps when analyzing problems, which can cause some disruption to language learners and make it difficult to apply directly to important curriculum practices [13].

7. Strategies for teaching staff to respond to ChatGPT

7.1 Accept Artificial Intelligence

One of the purposes of science is to make life easier, and ChatGPT is not an idle idea. It is the result of a certain level of artificial intelligence that has not been noticed before, and presenting it to the public all of a sudden can have a big psychological impact. While teachers may feel threatened by their existence, it is unwarranted to think that the teaching profession will be replaced by ChatGPT. ChatGPT is not good at creative, logical reasoning, and there are many creative, social and emotional

aspects to the work of teachers that are not easily replaced by AI. However, we should not take this lightly and should adjust our attitude to the role and value of AI. The application of ChatGPT-type AI products in education is ultimately to assist teachers in improving their teaching and should maintain a continuous learning mindset and accept new things.

7.2 Keep up with the times and improve digital literacy.

Modern education places higher demands on the digital literacy of teachers and students, and those who do not think ahead will fall behind. In the context of advances in science and technology, the emergence of big data and artificial intelligence has placed new demands on teachers' information literacy. Digital literacy is about teachers' understanding, awareness and use of digital technologies, such as digital teaching and learning, digital content creation, digital communication and collaboration, and so on. Teachers have an important role to play in the digital age, and improving digital literacy will help them to better meet the needs of teaching and learning in the digital age. Teachers should continue to learn about digital education theory through reading and participating in courses, master the use of digital technology tools represented by artificial intelligence, and eventually apply what they have learned to their teaching practice to continuously improve their understanding and use of information technology.

7.3 Human-machine collaboration, artificial intelligence to help teaching and learning

Educators need to be skilled in human-computer collaboration for nurturing people. When artificial intelligence products enter the classroom, they create intricate conversations that require the discovery and transformation of the nurturing values they contain, and it is important for teachers to grasp the strategies for using artificial intelligence [15]. Teachers need to make the transition from alternative to symbiotic thinking and be classroom organisers, using ChatGPT as a supplementary teaching tool. Teachers need to be good at manipulating this tool, requiring them to be "no AI rejecters" in the classroom, but rather "intelligent technology navigators". Teachers need to learn to use AI technology to enhance their personal teaching skills. With the help of ChatGPT, teachers will be able to explore a new way in which humans and machines can influence each other, catch up and surpass each other.

7.4 Complement each other and enhance professional competence.

Technology is forcing teachers to engage in more innovative work. The use of AI technology will transform traditional teaching models and modes, and teachers will need to constantly update their teaching philosophy and methods in order to meet the new teaching environment and requirements [2]. Firstly, teachers can take part in a variety of professional training to understand the latest teaching theories and educational technologies; secondly, teachers should reflect on the teaching process and its effects in time to explore the problems and strengths and adjust their teaching strategies and methods; finally, teachers can strengthen communication and collaboration with their peers to share their teaching experiences and methods and improve their teaching together.

7.5 Student-centered and competency-focused

Education aims to cultivate critical thinking and value judgement, not just knowledge transfer. In the context of artificial intelligence, learners' access to knowledge is diverse, and in the face of the vast amount of knowledge available, learners need to be able to search and discriminate, enhance their ability to identify and grasp knowledge, and learn to solve problems critically. Therefore, teachers should pay attention to students' learning of knowledge, but also pay more attention to training students' innovative thinking, inspiring them to be creative, promoting their problem-solving skills, technical processing, processing information and identifying information. The teaching is student-led and teacher-led, giving students the main role.

7.6 Proper guidance and supervisory effectiveness.

"The teachers for teaching are not a wholesale grant but a camera inducement". ChatGPT-type AI products bring dividends to education but also conceal risks, and the lack of supervision is prone to be contrary to expectations [9]. While teachers are constrained by education policy, they should also play a full role in guiding and monitoring students' use of technology. Students' motivation to learn will have a direct impact on learning outcomes, while establishing the right attitude towards the use of ChatGPT-type AI products will facilitate problem solving, and using inappropriate motivation will result in students losing the opportunity to think independently. In the HCI process, teachers are required to give students a rational perception of technology, and to appropriately guide and monitor the process of technology use, enhance students' digital literacy, strengthen their information sensitivity and value judgement, maintain their privacy and security, and promote the correct and rational use of AI technology.

8. CONCLUSIONS

With the rapid development of AI technology, the emergence of ChatGPT is just the tip of the iceberg, heralding the huge potential of AI technology in the education sector. The digital transformation of education has become an inevitable trend, and the integration of AI and education is a sure path to modern education.

With the continuous advancement of artificial intelligence technology, the future will enter the era of human-computer collaboration, and teachers should actively adapt to this change. Frontline teachers should strive to improve their professional skills and teaching abilities to keep pace with the times. Only by continuously learning newer knowledge and skills can they better adapt to the development of digital education.

At the same time, teachers should be keen observers and innovative thinkers to deal with all possible risks and challenges. With the assistance of artificial intelligence, teachers can be more flexible in developing teaching programmes, providing personalised education services and stimulating the creativity and potential of students. Teachers should be good at observing students' learning conditions and interests so that they can personalise their teaching according to students' characteristics and

achieve the best educational outcomes for each student. In addition, AI technology can also provide teachers with more teaching resources and assistive tools to enhance their work efficiency. By relying on AI technology, teachers can easily access various teaching materials and teaching solutions, as well as conduct student learning assessments and feedback. This will greatly save teachers' time and effort, enabling them to focus more on the teaching activities themselves and improve the quality and effectiveness of their teaching.

However, despite the enormous potential of AI in education, the role of the teacher remains irreplaceable. Teachers are not only the transmitters of knowledge, but also the guides and nurturers of students' all-round development [12]. Only teachers can effectively guide students through face-to-face communication and interaction, helping them to develop their overall literacy and creative abilities. At the same time, teachers are able to give care and motivation to their students, inspiring them to learn with enthusiasm and motivation. In addition to completing their own professional development, teachers should also collaborate with AI technology and work together to create a better educational environment. Teachers can actively participate in the design and development of AI education platforms to provide more comprehensive and personalised education services for students. At the same time, teachers can also create more innovative and interactive ways of teaching and learning by incorporating AI technology to stimulate students' interest and potential for learning.

In a future where artificial intelligence and education are integrated, frontline teachers will play an integral role. They will need to continuously improve their professionalism and keep up with the times in order to respond to the ever-changing needs of education. At the same time, teachers will also need to work closely with AI technology to jointly achieve personalised and efficient education goals. Only then will the field of education be truly resilient and rock-solid.

Moving towards human-computer co-teaching is an effective path to achieve high-quality development of education in China, and an inevitable choice to create a new form of human civilization [6]. Practice is the fundamental driving force behind the development of understanding. Only by constantly testing AI technology in applications can we accurately judge the value of AI technology in education innovation; only by constantly testing the value of AI technology in education innovation in applications can we understand how to use AI to deepen educational change and develop equitable and quality education. In the future, we must not only take advantage of the opportunities for development of educational practices, mindsets and institutional structures brought about by AI technologies, but also provide more possibilities for the creation of a new form of human civilisation through the continuous integration of technological change and educational innovation. In the process of moving towards human-computer co-education, firstly, we need to avert educational hazards with the help of smart technologies, provide early warning of threats, strengthen security and ensure smooth information flow for teachers and students, so that people can develop freely and comprehensively in a healthy digital environment. Secondly, we need to strengthen the public good of digital education in order to pursue educational equity, eliminate educational poverty and the educational divide, safeguard

the educational interests of people in developing countries and poor regions, and ensure that the world can equally enjoy the educational innovations brought about by technological change. Thirdly, we should promote the digitalisation and intelligence of cultural communication, continue to draw strength from the long-standing Chinese civilisation of more than 5,000 years, promote the deep integration of technology and culture, and lead modern civilisation to burst forth with new vitality. Finally, no matter what opportunities or challenges for educational innovation will be brought about by technological change, we should always insist on promoting mutual understanding among peoples, respecting the diversity of world civilisations, transcending civilizational barriers with civilizational exchanges, transcending civilizational conflicts with mutual appreciation, and transcending civilizational discrimination with civilizational coexistence, and contributing Chinese wisdom to promote the exchange, mutual appreciation and coexistence of world civilisations!

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