

Advantages, Challenges and Prospects of ChatGPT in Oral English Teaching

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Abstract. With the development of artificial intelligence, ChatGPT has set off a hot wave in various fields, and brings opportunities and challenges to education. The positive and negative effects of ChatGPT on education have aroused heated discussion in academic circles. Based on its principle and development process, and the continuous optimization of language model, ChatGPT can play a unique advantage in oral English teaching, such as: providing personalized oral practice, real-time error correction and feedback, real dialogue simulation, safe and comfortable dialogue environment. At the same time, the challenge of ChatGPT in oral teaching is also the direction of its future technological improvement, such as: real-time communication of spoken language, recognition of voice tone and intonation, integration with VR technology, autonomous assessment of spoken language level, etc., Those can become the application prospects of ChatGPT in oral teaching. Artificial intelligence assisted oral teaching is a new mode of oral teaching.

Keywords: ChatGPT; Law of Accelerating Returns; Oral English Teaching; Personalized Practice.

1. Introduction

In November 2022, the ChatGPT, which was released by OpenAI, caused a huge wave on the Internet, which represents the milestone of AI development [1]. Users marvel at its intelligence on fluent chat mode, content, and intelligent answers. Many users use the "knowledge of astronomy and geography" to describe the "erudite" function of ChatGPT. More popular is that it can provide a reference outline and intelligent prompt for novel writing, activity planning, staff interview, etc., and also can provide the programmer with basic code or check code errors. Thus, the ChatGPT has become almost a civilian intelligent "division" that can "advise" those who use it. A programmer can save time to develop more advanced code for his needs. However, while ChatGPT is popular with Internet users, especially students, who regard it as "homework good helper", but there are some concerns that ChatGPT will bring negative impact on education [2]. For example, the inertia of students may be triggered by ChatGPT; Students' thinking is restricted by ChatGPT; Students' innovative abilities may decline; Students may be misled by the wrong information given by ChatGPT [3-7]. Therefore, the positive and negative impact of ChatGPT on education has become a hot topic of scholars at home and abroad, and it is necessary to explore how to exert the advantages of ChatGPT in teaching and overcome the challenges it brings.

2. Review of the Documents

2.1. Attitudes of World Universities towards ChatGPT

Since the release of ChatGPT, a survey showed that 89% of college students in the United States were using ChatGPT for homework or writing papers as of January 2023, and ChatGPT officials said this behavior was unethical and unhealthy of minds [8]. Wu Jiaju, from China New Finance, also opposes students using ChatGPT to complete their homework and write their papers. He believes that improving students' learning ability and creativity depends on their independent thinking and learning, and using ChatGPT to study will restrict the development of these abilities [9]. Students in colleges and universities use ChatGPT in examination or paper writing, which is like a flood and beasts impinge on teachers to evaluate students' learning effect correctly. For this reason, Stanford



University has launched DetectGPT to test whether students use AI or ChatGPT in their assignments [9]. The University of Political Science of Paris (Sciences Po) also prohibits students from using ChatGPT to complete any written assignment or presentation [10]. Some public universities in the United States also prohibit students from using ChatGPT for homework or exams [11]. Japan's Sugigi University, Tokyo University, Kyoto University and Tohoku University have issued notices that students will be punished for using ChatGPT or AI chat robots on any assignment without approval. Among them, the President of Kyoto University believes that the articles produced by AI have many flaws [12].

The above reports seem to highlight the challenge of ChatGPT to education and the negative evaluation of it. Is ChatGPT really a negative effect in teaching and should be blocked? The answer given by scholars is no. Scholars have done a lot of research on how to use ChatGPT correctly in teaching and make education get ChatGPT more return [13].

2.2. Research on the Positive and Negative Effects of ChatGPT in Education

In less than a year since the release of ChatGPT, the academic discussion on it has been increasing, especially, the impact on higher education has attracted the attention of scholars. Wang Youmei [14] and others put forward a study titled "Is ChatGPT an 'Aladdin Lamp' or 'Pandora's Box'?". In this paper, Wang Youmei discussed the function of ChatGPT "Allah Lantern". At the same time, she also pointed out the potential threat of ChatGPT, namely the effect of Pandora's Box, and finally put forward the way of using ChatGPT reasonably in future education. Jiao Jianli [15] also proposed an academic issue, which titled "ChatGPT: Friends or Enemy of School Education?". Jiao Jianli believes that ChatGPT is a new thing and it is the product of AI development: AI auxiliary education is the developing trend: ChatGPT is the tool of auxiliary education and educators should regard it as a friend. We should not exclusive, but use it rationally in teaching, and at the same time, in combination with relevant laws and policies, ChatGPT will play its greater role in education. Feng Jianjun [16] also raised the question of "How do we view the challenge of ChatGPT to education". Feng Jianjun suggested that we should treat ChatGPT with positive embrace and caution and apply it in education and teaching. He thought ChatGPT is a tool, it can only change the form of teaching, not the essence of education. And we take some strategies to address the challenges that ChatGPT poses to education, rather than escape and blockade. Foreign scholars Ariyaratne [17] also discussed the question of whether ChatGPT is an ally or an enemy in academic publications. Ray and Majumder [18] also discussed in depth the impact of ChatGPT's double-edged sword in biomedical engineering. Farhat [19] also discussed the issue of "blessing" and "disaster" of ChatGPT in mental health education resources. Rahman and Watanobe [20] also discuss opportunities, threats, and strategies for ChatGPT in education and research.

In the above study, scholars are optimistic about ChatGPT and highlight the positive impact of ChatGPT on education. Although it has some negative effects, scholars think that if we adopt corresponding strategies, the negative effects of ChatGPT in education will weaken, and finally, ChatGPT will become a powerful auxiliary tool in education teaching. However, scholars have discussed the positive and negative effects of ChatGPT in education field, there are few researches on the basic principle and development process of ChatGPT. Based on the basic principle and development course of ChatGPT, this study explores its advantages, challenges and prospects in foreign language teaching, in order to provide references for further excavations of its advantages in more multidisciplinary fields, as well as suggestions for its future development.

3. The Basic Principle of ChatGPT Provides Theoretical and Technical Support for Oral Teaching.

For the principle of ChatGPT, the developers of OpenAI give an explanation in their research papers as shown in the figure 1 below

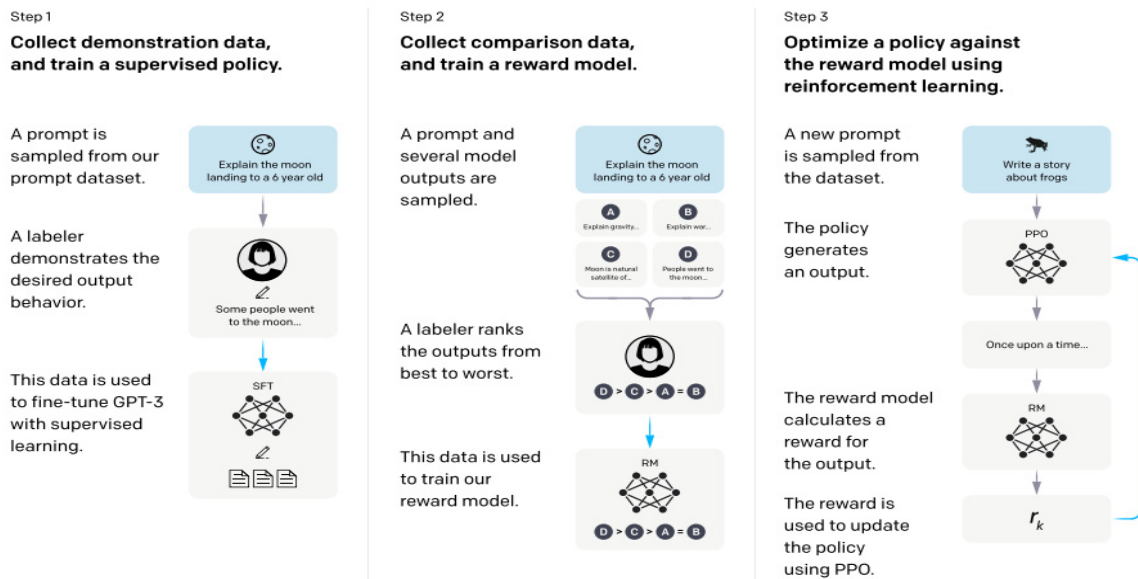


Figure 1. Schematic of the ChartGPT "Three Steps" Principle (Photo from OpenAI Paper, 2022 [21])

In fact, ChatGPT works through three steps: (1) Collect data on the Internet and train supervision strategy: GPT selects an instruction or a prompt from the prompt dataset; Machine like a humans annotator selects the ideal answers; These data (human responses) optimize the GPT3.5 model by means of supervised learning, the supervised fine-tuning model. (2) Collect comparative data, train reward model: take a question and let the previous supervisory model generate several answers; Answers are sorted according to merit by an annotator Labeler; Training reward models based on these data. (3)The GPT model is optimized by using the enhanced learning algorithm based on proximal policy optimization: Through the first step of supervised training, get a simple version of chatGPT model to generate an answer; the reward model evaluates the answer; The score of the reward model [21] was used to improve the GPT model. After three steps, a ChatGPT model is created.

The first step, in general, is to use a question-and-answer sample to train the output of the GPT model in a supervised manner so that it can output language in a conversational manner. The second step is based on the first step, giving different answers into the order and ranking the best answers to reward. The third step is machine learns how to answer questions better and then, give the best answer to users based on the above two steps.

GPT has developed very rapidly, fulfilling Raymond Kurzweil's "Law of Accelerated Return Law of Accelerating Returns"[22]. The law states that in many areas, particularly information technology and biotechnology, technological progress is progressing exponentially and nonlinearly providing increasing returns. Ray Kurzweil believed that every three to five years from the start of the 21st century, changes similar to the combined results of previous advances in science and technology. The GPT-3.5 model based on ChatGPT, the reward for human beings exceeds the previous understanding of AI.

The emergence of ChatGPT marks the important progress of natural language processing and the important milestone of artificial intelligence technology. Its emergence is not a whim, but a combination of technologies, so, as Ma Jianjun [16] believes, our attitude towards it is a embrace rather than a rejection.

Oral language (whether text or speech) is the output of language learning. The dialogue between the student and ChaGPT is the output exercise of the language learner.

4. Advantages of ChatGPT in Oral English Teaching

As a world language, the importance of spoken English is self-evident. In business negotiation, international stage, cultural exchange, if you want to grasp preemptive opportunity and control the right of the speeches, a fluent spoken English will be your credit. In China, college oral English teaching has been facing many challenges, such as the limited learning environment and the limited number of native English teachers [23-25]. Students pay more attention to the written examination of English and ignore the training of oral expression, which leads to their lack of motivation [26]. Some students face the anxiety of oral expression, lack of self-confidence, and unwilling to open their mouths to practice oral language [27]. ChatGPT can help students and teachers overcome these challenges effectively with its own advantages.

ChatGPT, based on the powerful GPT model, combines speech recognition and speech synthesis technology, realizes the function of oral input and oral output, and combines its strong natural language processing ability (see 3.1: ChatGPT basic principle [21]). It can understand the semantics of the text, correct the word and sentence, and provide immediate feedback; It can also simulate dialogue scenarios, expand topics and background knowledge, etc. Moreover, it can also be used as the oral partner of students, help students overcome psychological anxiety, and practice spoken language together.

4.1. ChatGPT Provides Personalized Oral Exercises

Nowadays, oral class can not provide individualized oral exercises, many oral exercise APPs can only provide a single exercise mode—"open mouth". They cannot intelligently induce or extend further dialogue [28]. ChatGPT simulates dialogue and provides the opportunity for students to practice actual spoken language. Students can improve oral fluency and accuracy by talking to ChatGPT. They can choose different topics for discussion, start with simple greetings and introductions, and gradually expand to more challenging topics, like travel, music, culture and more. For example, here's a conversation between students and ChatGPT during oral exercises:

Student: Hello. I am Zhang San. I want to talk with you for practicing my spoken English. Now I want to order my lunch. how can I talk with restaurant waiter?

ChatGPT: That's a great idea! Practicing spoken English by ordering your lunch is an excellent way to improve your language skills. When talking to a restaurant waiter, here are some phrases and tips you can keep in mind:

(1) Greetings and Getting Their Attention:

"Excuse me, could you please take my order?"

"Hello, I'd like to place an order, please."

(2) Expressing Your Preferences:

"I would like to order [dish/item]."

"Can I get [dish/item], please?"

"I'm interested in trying [dish/item]."

(3) Asking for Recommendations:

"What are your popular dishes?"

"Do you have any recommendations?"

"What would you suggest for [specific dietary preferences or restrictions]?"

(4) Asking about Ingredients or Preparation:

"Could you please tell me what ingredients are in [dish]?"

“Is the [dish] spicy/non-spicy?”

“Can you make [dish] without [specific ingredient]?”

(5) *Special Instructions or Customizations:*

“Could I have [dish] with [specific ingredient] on the side?”

“Can I make any substitutions with [dish]?”

“I would like [dish] without [specific ingredient].”

(6) *Asking about Wait Time or Availability:*

“How long will it take for my order to be ready?”

“Is [dish] available right now?”

“Do you have [dish] in stock?”

Remember to speak slowly and clearly, and don't hesitate to ask the waiter to repeat or clarify if you don't understand something. Practicing simple conversations like this will improve your confidence and fluency in spoken English over time. Enjoy your practice and your lunch!

In this conversation, ChatGPT describes all possible conversations that students might have in restaurants. Students can order in English smoothly by following the steps suggested by ChatGPT, as well as the spoken sentence. Finally, ChatGPT also gives the practitioner some encouragement to continue oral practice. And these conversations can be conducted using a voice plug-in for ChatGPT. Students can use a microphone or other voice input device to chat with ChatGPT. (The technique of automatic speech recognition is used in this process), so that students can effectively improve their oral skills.

4.2. ChatGPT Corrects Language Errors and Provides Immediate Feedback

ChatGPT, through the supervision model, reward model, and the reinforcement learning algorithm of the proximal strategy, optimize GPT model furtherly so that ChatGPT has strong context comprehension ability. It understands the intent of the users and corrects or improves their oral language. For example, the following conversation

Student: I saw a girl from America in the tour group. I wanted to practice speaking and chat with her in English. Can you correct what I say in the following paragraph for me? Can you give me a better expression?

“Hello. I am Zhang San from Beijing. You are a beautiful girl. I think we are about the same age. Can I make friends with you or be your tour guide and take you on a tour?”

ChatGPT: Your idea is good, but there are places where you can make some changes. We need to be more cautious and respectful when communicating with strangers, especially in international cultural exchanges. Here is a more appropriate expression:

“Hello. I'm Zhang San from Beijing. It's nice to meet you. I couldn't help but notice that we're both traveling in the same group. Would you like to chat and get to know each other? Perhaps we could explore the city together and share our experiences?”

This expression is more friendly and respectful of each other's personal space and choice. It conveys your desire to connect and share your travel experience, rather than overemphasize appearance or directly ask for a guide. Remember, it's important to be respectful and friendly in communication.

In the above dialogue, ChatGPT points out the inappropriateness of the dialogue used by the student in the scene, and gives the appropriate spoken dialogue model for the student to refer, and also gives the feedback and some suggestions in time. This is beneficial for the student to compare his spoken

language with the appropriate text given by ChatGPT, and know how to communicate with strangers more comfortably.

4.3. ChatGPT Provides Real-time Simulation of Dialogue

ChatGPT has developed a powerful language model through a large number of corpuses, which makes ChatGPT express its ability to be "learned" in chat with people. It can envision the development of the next scenario from the student's question, and the student can change the scene and talk to it at any time, and it responds instantly. For example, the following passage.

Student: When I practice spoken English, I want to know how I can speak English, what keywords and what sentences I need to speak in different situations, like booking hotels, attending interviews, supermarket shopping and greeting strangers? Please list key words and examples in each of these scenarios

ChatGPT: When practicing spoken English in different scenarios, the following are some common scenarios, as well as keywords and examples:

(1) Reservations (Booking a hotel):

Key words: reservation, check-in, checkout, room type, amenities, duration, availability

Examples:

"Hello, I'd like to make a reservation for a single/double room for [duration of stay]."

"Do you have any rooms available for [dates]?"

"I prefer a non-smoking room with a view, if possible."

"What are the amenities included in the room?"

(2) Interview Job Interview:

Keywords: introduction, qualification, experience, skills, challenges, future plans.

Examples:

"Nice to meet you. My name is [your name]."

"I have [number] years of experience in [industry/field]."

"I am skilled in [specific skills] and have successfully overcome challenges in my previous role."

"In the future, I plan to further develop my expertise in [specific area] and contribute to the company's growth."

(3) Supermarket shopping

Keywords: shopping list, aisle, product, brand, quantity, price, payment

Examples:

"I need to find [product] for my recipe. Can you tell me where the [aisle/section] is?"

"I would like [quantity] of [product/brand]."

"How much does this item cost?"

"Can I pay with cash/credit card?"

(4) Greeting Strangers:

Key words: greeting, introduction, small talk, common course

Examples:

“Hello! My name is [your name]. Nice to meet you.”

“How are you doing today?”

“Beautiful weather we’re having, isn’t it?”

“Do you have any plans for the weekend?”

In any scenario, be polite and friendly, and try to use clear and concise statements for effective communication. At the same time, you can also adapt flexibly according to specific situations.

Through the dialogue with ChatGPT, students can prepare and practise oral expression in specific situations in advance, and can increase their oral coping ability in different situations.

4.4. ChatGPT Provides a Safe and Comfortable Learning Environment

Many students are always anxious to speak English in public and be laughed at by the listeners, or forget/stuck the words in the process, and do not know how to go ahead, and so, they have to stop speaking. However, in oral practice with ChatGPT, firstly, students don't have to worry about its sneer at their spoken language level, and thus they can overcome psychological anxiety. Secondly, it can complement student’s missing or stuck words, and syntactic. Thirdly, it encourages students to continue the dialogue. Finally, it will give some comments and suggestions to promote the improvement of students’ oral ability.

Students: Hello, I want to practice my Spoken English. Let's begin with my recent writing test. I got a bad score and I am sad. I am afraid to tell my parents about it, but I want to tell them: "The questions and requirements of this test are very difficult, so the score is very low", ah, I am stuck and forget how to utter next English words. Please help me. You know, my Spoken English is poor, I often (oh, my god, being stuck again) and I am afraid to speak in public.

ChatGPT: Don’t worry, I’m here to help you. Here’s a sample sentence you can use to explain your test score to your parents:

“I want to share with you that the test I recently took had very challenging questions and requirements, which resulted in a low score.”

And for the second part of your statement, here’s a revised version:

“You see, my spoken English skills are not very strong, and I often struggle to express myself. Additionally, I feel nervous speaking in public.”

Remember, it’s okay to make mistakes and have areas where you need improvement. The important thing is to keep practicing and never hesitate to seek help when needed.

ChatGPT answers the students’ questions very cool, and adds the words that the students cannot speak. Even if interlocutors switch between the two languages, ChatGPT can understand what they are trying to say. ChatGPT gives the authentic spoken words and sentences. Finally, ChatGPT also encourage the interlocutor to practice more, like "It will be always waiting for you."

There may be many potential applications of ChatGPT in oral teaching, which needs to be further explored. Together with other technologies, the plug-ins can make oral teaching cooler in the AI mode. However, there are some challenges and limitations in oral English teaching assisted by ChatGPT.

5. Challenge of ChatGPT in Oral Language Teaching

Firstly, from its evolution, ChatGPT is a variety of techniques, it continuously carries on mass corpuses training learning, human reflection information becomes the content of model learning. Generally speaking, it learns from human beings and feeds back what it learns to the interlocutor. So, the truth and falsehood of this information is to be judged by people themselves. Secondly, ChatGPT

is based on text corpus training, mainly to judge the semantics and meanings of text information, but it is difficult for ChatGPT to determine the meaning of speech and intonation. Thirdly, the question of whether ChatGPT will take into account cultural differences and values when answering questions remains open. Therefore, people have to consider some challenges that ChatGPT brings in oral English teaching, such as: (1) the limitation of language patterns: although ChatGPT can produce fluent text, it is still a model based on a lot of training data. Therefore, it may be limited in dealing with certain complex or non-standard oral expressions and cannot provide accurate or appropriate answers. (2) Pronunciation and intonation limitations: ChatGPT cannot hear students' pronunciation and intonation directly, meaning it cannot provide precise guidance for personal pronunciation problems and intonation adjustments. Improvements in this area require additional technical and equipment support to accurately assess and correct interlocutor pronunciations and intonations. (3) Challenges of feedback and interaction: ChatGPT is limited in providing personalized feedback and interaction compared to actual teachers. While it can give input-based answers, it lacks human sensory contact and emotional communication, as well as human expressive meaning. For students, communicating with real humans can provide more meaningful and instructive feedback and interactive experiences. (4) Cultural and physical context constraints: ChatGPT is trained on a large amount of data worldwide, so language use in a given cultural context and in a real context may be unsuitable or inaccurate. For students, understanding and adapting to different cultural and practical contexts is key to success, and ChatGPT does not provide the same diversity of in-depth understanding. ChatGPT, although it provides simulation and situational communication, is not a complete substitute for real interpersonal communication with native English speakers. Students still need to interact with real native speakers to develop and improve their oral ability through practical communication. (5) The challenge of dependency: While ChatGPT can be used as a tool in oral instruction, relying entirely on it may limit students' opportunities for autonomous learning and practice. Students may use the sentence pattern provided by ChatGPT to imitate other interlocutors and lose the opportunity to use flexibly and express freely.

These challenges and limitations highlight areas where ChatGPT still needs improvement in oral English teaching. ChatGPT, combined human teachers and other language learning resources, as well as its technological enhancement, can be more effective to improve students' oral ability.

6. Future Development and Prospect of ChatGPT in Oral Language Teaching

The future prospect of ChatGPT in oral English teaching is very promising. Although there are some challenges and limitations at present, with the development and improvement of technology, ChatGPT can improve and innovate as follows: (1) Integrating large data technology, setting up a plan for oral exercises for students, and providing personalized learning experience: ChatGPT in the future can better adapt to students' personalized needs and learning style. By using historical data, learning preferences and feedback from student chats, ChatGPT can provide more personalized and precise guidance to help students overcome specific oral barriers. (2) Combining speech synthesis technology, and realizing real-time speech communication: Although speech input can be realized by voiceChatGPT plug-in, ChatGPT is still based on text recognition, cannot realize timely speech output, need to combine speech synthesis technology. Future technologies may enable ChatGPT to communicate in real time, to receive verbal input from students and to provide immediate feedback and correction. This will provide students with more intuitive and interactive oral practice environment, and help them improve pronunciation, intonation, and fluency. (3) Combining VR technology to implement virtual language communication scenarios: the future ChatGPT can provide more visual learning resources such as oral demonstration and simulated dialogue. Students can watch video material and interact with ChatGPT to enhance their listening and listening skills and cross-cultural communication skills. In addition, VR simulates cross-cultural communication and practical situations, ChatGPT can help students to practice their spoken language in various near-real situations. Whether it's business meetings, travel communication or social gatherings, students can improve their oral coping skills in different situations by talking to ChatGPT. (4) Autonomous learning and self-

assessment: The future ChatGPT can integrate speech assessment technology to better support students' autonomous learning and self-assessment. It provides personalized learning advice and resources to help students set learning goals and track progress. In addition, the ChatGPT can provide oral evaluation capabilities that help students identify and improve weaknesses in spoken language.

Overall, the future ChatGPT will be more intelligent, personalized and interactive. It will be a valuable auxiliary tool for students in oral English learning, providing them with more opportunities and resources to improve their oral expression ability and promoting them to achieve better results in cross-cultural communication.

7. Conclusion

ChatGPT is a nascent product whose basic principles explain its fluent chat function and its human touch. It has evolved from a variety of techniques. With the expansion of the large-scale pretraining language model and the increasing of parameters, its intelligence will become stronger and stronger. As Kurzweil's law of accelerated returns says, it will pay more and more for people, so people should embrace ChatGPT, believing it brings "blessings". Similarly, it brings "blessings" to oral English teaching, which is also shown in: (1) providing personalized oral practice environment: It provides instant language communication and interaction, enables students to practice oral expression and listening comprehension. (2) Providing immediate feedback and correction: It can provide targeted grammar correction, pronunciation guidance and vocabulary real-time correction to help students improve their language skills. (3) Simulating real dialogue scenario: It can also provide a lot of language resources, context dialogue and cultural background knowledge, and enrich students' cross-cultural communication skills.

However, according to Rogers's "innovation diffusion theory", the spread of new things develops along a certain convex curve, and the spread of ChatGPT follows this concave curve. People's understanding of ChatGPT begins with "exclamation" (100% trust), "doubt" (trust declines), "experiment" (trust is less than 50%), and finally rational "adoption and application" (50-80% trust), which shows that ChatGPT has certain limitations in oral teaching. These limitations are: (1) It is not a complete substitute for face-to-face teaching and communication. (2) Because it is a model based on a large amount of data training, ChatGPT does not respond well to the special needs and error correction of individual learners. (3) It may have the inaccuracy or ambiguity of information, which needs to be judged and analyzed by teachers and students in the process of use.

Therefore, teachers and students need to maintain critical thinking and active learning attitude while taking advantage of ChatGPT. Teachers should instruct students to use ChatGPT correctly and educate them about its accuracy and limitations to help them identify and correct possible errors. At the same time, students should understand that ChatGPT is a kind of auxiliary tool, and they should actively participate in oral exercises, develop their creativity and critical thinking ability. Teachers and students should make full use of the advantages of ChatGPT and combine the traditional face-to-face communication and education methods to improve the oral English teaching effect.

In addition, with the development of AI, artificial intelligence becomes an indispensable auxiliary tool in education, integrating AI into "teaching" and "learning" may become a new mode of future education.

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