

# *Research on Innovative Teaching Models of ChatGPT in Higher Vocational English Learning*

**Zhenxiao Zhang**

*Hainan Vocational University of Science and Technology, Haikou, 571126, China*

**Keywords:** ChatGPT; higher vocational education; English teaching

**Abstract:** This study aims to explore the innovative teaching application of artificial intelligence in higher vocational English learning, as well as the potential role of the ChatGPT model in this field. ChatGPT, as a natural language processing model, possesses excellent language generation abilities, context comprehension, and multi-domain adaptability, showcasing extensive potential for application in higher vocational English learning.

## **1. Introduction**

With the continuous development of information technology and artificial intelligence, the field of education is undergoing profound transformation. Higher vocational education, as a crucial stage in cultivating skilled talents, has always drawn attention to its English teaching. However, challenges such as varying student foundations, diverse subject demands, and limited class hours are common in higher vocational English learning. Traditional teaching methods struggle to meet personalized learning needs and the requirement to enhance comprehensive English abilities. In this context, the application of artificial intelligence has become one of the important approaches to driving innovation in higher vocational English teaching.

## **2. Pros and Cons of Traditional English Teaching Models**

### **2.1. Advantages of Traditional English Teaching Models**

The traditional teaching model is built upon face-to-face interaction between teachers and students, fostering communication and dialogue. This real-time interaction aids students in better understanding the instructional content and addressing their queries promptly. Traditional teaching allows teachers to adjust the content and pace based on students' learning conditions and feedback, facilitating the meeting of diverse learning needs. Personalized guidance can be offered to students based on their progress and grasp of the subject, contributing to better learning outcomes. Traditional teaching materials and methods have been validated through long-term practice, possessing stability and reliability. Carefully designed and optimized, they provide a comprehensive English learning framework, establishing a strong foundation for students' learning. These advantages of traditional teaching models largely support the effective transmission and acquisition of English education. However, as technology continues to evolve, it's important to recognize the limitations of traditional

teaching models and continually enhance teaching effectiveness through innovation.

## **2.2. Disadvantages of Traditional English Teaching Models**

Traditional teaching models face limitations in terms of teaching resources. Restricted by time and location, traditional classrooms are often bound by fixed class hours, making it challenging to meet the personalized learning needs of students. This can result in certain students lacking personalized guidance tailored to their learning pace and style, impacting their learning outcomes and motivation. Moreover, in traditional classrooms, teachers often deal with larger numbers of students, making it difficult to provide in-depth individual guidance. Under traditional teaching models, some students may not receive sufficient attention and assistance, affecting their academic performance and self-confidence. Because traditional teaching models are teacher-centered, student engagement and initiative are relatively low. Students often passively receive knowledge in traditional classrooms, lacking adequate interaction and participation.[1] This can lead to waning interest and motivation, and even lead to study fatigue. In such circumstances, both students' learning drive and outcomes may be adversely affected. Traditional teaching models lack personalized teaching methods tailored to individual learning characteristics. Each student's learning habits, interests, and abilities vary, and traditional models struggle to cater to these individual differences. Consequently, some students may not achieve maximal learning effects, leading to a loss of learning interest and diminished motivation. While traditional English teaching models possess merits, they also exhibit limitations and shortcomings. To better accommodate personalized learning needs and enhance teaching effectiveness, it's necessary to explore innovative teaching models, such as technology-assisted education incorporating artificial intelligence, such as ChatGPT, to achieve more personalized and efficient English learning experiences. Through innovative teaching models, we can better stimulate students' learning interests, elevate their motivation, and better meet the increasingly diverse demands of English learning.[2]

## **3. Introduction to ChatGPT and Its Features**

### **3.1. Introduction to ChatGPT**

ChatGPT is an artificial intelligence-based natural language processing model developed by OpenAI. It's the latest version of the GPT series, which stands for "Generative Pre-trained Transformer." ChatGPT learns the semantics and structure of natural language by being pre-trained on large-scale text data, enabling it to comprehend and generate fluent text. This model utilizes the Transformer architecture and employs self-attention mechanisms to process input data, resulting in significant achievements in text understanding and generation. As ChatGPT is pre-trained on general corpora and not specifically optimized for particular tasks, it possesses strong adaptability and generality, making it suitable for various language processing tasks in different domains, including dialogue generation, text summarization, and question answering. The introduction of ChatGPT has brought new breakthroughs to the fields of language processing and natural language understanding, inspiring innovative applications in education, communication, and text generation.[3]

### **3.2. Potential Applications of Artificial Intelligence in Education**

Artificial intelligence holds immense potential for applications in the field of education, revolutionizing teaching methods and learning experiences. Firstly, AI can provide personalized learning support by tailoring teaching content and learning plans to individual students based on their learning progress, interests, and abilities, optimizing learning outcomes and meeting personalized

learning needs. Secondly, AI can function as an intelligent assistant in teaching, offering tools for teachers to manage student learning data, automatically assess learning outcomes, provide feedback, and thereby freeing teachers' time and energy, leading to more efficient and targeted teaching. Furthermore, AI can enhance the generation of teaching content and materials, utilizing extensive data analysis and processing to produce high-quality, student-oriented materials, promoting material personalization and customization. Additionally, AI technology can enhance learning experiences through virtual reality and augmented reality techniques, creating immersive learning environments that make learning more engaging and enjoyable. In terms of student assessment, AI can facilitate automated assessment and feedback, providing real-time learning scores and performance feedback, enabling students to identify and improve issues promptly. Although the prospects for AI in education are promising, challenges related to privacy protection, data security, and technological reliability must be addressed to ensure robust and sustainable development of AI applications in education. In summary, the application of AI in education will continue to drive innovation in teaching methods and enhance learning experiences, offering a broader outlook for educational development.[4]

## **4. Advantages of ChatGPT in Language Learning**

### **4.1. Abundant Learning Resources**

One significant advantage of ChatGPT in language learning is its provision of abundant learning resources. As an intelligent assistant, ChatGPT can offer diverse learning content tailored to students' subjects and learning objectives, covering various topics and difficulty levels. By analyzing extensive corpora and text data, ChatGPT can generate articles, lesson texts, example sentences, and language practice questions enriched with semantic depth and knowledge. These learning resources cater to students' needs across different learning stages and subject areas, aiding in expanding knowledge breadth and depth. Moreover, ChatGPT can recommend suitable learning resources based on students' progress and interests, ensuring alignment with their learning needs and preferences. These rich learning resources not only diversify and enrich learning content but also provide teachers with more teaching materials and aids, assisting them in designing courses and teaching activities. In summary, through offering abundant learning resources, ChatGPT provides comprehensive and flexible learning support, promoting students' knowledge accumulation and overall language learning improvement.

### **4.2. Fostering Self-directed Learning**

Thanks to ChatGPT's intelligent assistance, students can engage in learning with ChatGPT at their own time and pace, free from time and location constraints. This mode of self-directed learning encourages students to take an active role in their education, enabling them to learn according to their needs and progress, enhancing their learning autonomy and discipline. Students can engage in conversations and interactions with ChatGPT, selecting learning content and methods based on their learning plans and goals. This personalized learning experience stimulates students' enthusiasm for language learning, encouraging them to actively participate in the learning process and establish habits of self-directed learning. Additionally, as a learning companion, ChatGPT not only offers learning resources and guidance but also provides encouragement and recognition for students' learning progress, boosting their motivation and sense of achievement. Through the promotion of self-directed learning, students can continually accumulate knowledge in their own time and space, enhancing the efficiency and outcomes of language learning.[5] Simultaneously, teachers can utilize students' learning data and performance to understand their progress and needs, offering more personalized learning suggestions and guidance, thus promoting students' learning progress.

### **4.3. Enhancing Interactive Learning Experience**

ChatGPT can engage in real conversations and interactions with students, making learning more engaging and enjoyable. In language learning classrooms, students can practice spoken dialogue with ChatGPT, simulating daily communication scenarios. This real-time language exchange experience makes students feel like they are conversing with real individuals, igniting their enthusiasm and active participation in learning. Students can raise questions, provide answers, and interact with ChatGPT, receiving instant feedback and guidance. Additionally, ChatGPT can simulate various roles and situations, enabling students to practice dialogue in different contexts, enhancing their language communication and expression skills. In terms of writing, students can engage in writing dialogue with ChatGPT, receiving real-time correction and evaluation. ChatGPT provides real-time error correction and evaluation for students' writing, assisting them in improving their writing expression and skill. Through this interactive learning experience, students can gain a deeper understanding of language knowledge, using language more confidently in communication. Moreover, the interaction with ChatGPT provides students with a sense of achievement and satisfaction, bolstering their motivation.[6] In summary, enhancing interactive learning experiences is a significant advantage of ChatGPT in language learning. It offers students a more dynamic, interactive, and effective learning approach, fostering enthusiasm and effectiveness in language learning.

### **4.4. Multi-domain Adaptability**

As ChatGPT is pre-trained on a vast corpus of general text, it possesses strong versatility and adaptability, not confined to specific domains or tasks. This makes ChatGPT widely applicable in language learning across various subjects and language skills training. Whether in English listening, speaking, reading comprehension, writing, grammar, vocabulary, or other aspects, ChatGPT can provide targeted learning support. Furthermore, ChatGPT can be applied to the learning of other languages, assisting students in learning different foreign languages. Its pre-training mode enables it to understand and generate text in multiple languages, broadening students' language learning options. Multi-domain adaptability allows students to receive comprehensive language learning assistance on a single platform, eliminating the need to switch between multiple learning tools and resources. This not only enhances learning efficiency but also increases students' learning convenience and experiences. Simultaneously, multi-domain adaptability provides teachers with a broader range of teaching resources and aids, supporting them in planning and implementing teaching practices across various language skills and subject areas. In summary, multi-domain adaptability makes ChatGPT a comprehensive and flexible language learning tool, offering students well-rounded, personalized learning support, and fostering overall development in language learning.

## **5. Innovative Educational Applications of ChatGPT in Vocational College English Learning**

### **5.1. Providing Personalized Learning Assistance**

Personalized learning assistance is an innovative application of ChatGPT in vocational college English learning. Through ChatGPT's intelligent support, students can engage in personalized learning based on their individual needs and interests. For instance, in vocational college English listening classes, teachers can introduce ChatGPT to the instruction, allowing each student to interact with ChatGPT using their own devices. Students can choose the difficulty and theme of listening materials, tailoring their listening practice to their proficiency level. Based on students' responses and performance, ChatGPT can recommend suitable listening materials and practice questions. For high-performing students, ChatGPT can suggest more challenging listening materials to further enhance

their listening skills. Conversely, for students with weaker performance, ChatGPT can recommend exercises targeting their areas of weakness, helping them consolidate their foundations. Through personalized learning assistance, students can efficiently improve their listening skills at their own pace and interest, enhancing motivation and learning outcomes. Additionally, teachers can gain insight into each student's learning status through their data and performance, enabling more targeted teaching guidance and personalized learning recommendations. Personalized learning assistance enhances both students' learning satisfaction and effectiveness, while also providing teachers with more support and feedback to optimize teaching plans and methods.

## **5.2. Cultivating Speaking and Writing Skills**

Cultivating speaking and writing skills involves practicing spoken communication and writing exercises with ChatGPT, effectively enhancing students' English speaking and writing abilities. In terms of speaking, students can engage in conversational practice with ChatGPT, simulating real communication scenarios. For example, in vocational college English speaking classes, students can participate in question-answer sessions, dialogues, and speech exercises with ChatGPT to improve spoken fluency and confidence. As an intelligent assistant, ChatGPT provides real-time oral feedback and correction, helping students refine pronunciation, intonation, and pace, gradually enhancing their oral communication abilities. On the writing front, students can engage in written conversations and writing exercises with ChatGPT. For instance, in vocational college English writing classes, students can interact with ChatGPT for writing guidance and suggestions, enhancing their use of essay structure, grammar, and vocabulary. ChatGPT promptly corrects students' grammar errors and semantic ambiguities, aiding in forming proper writing style and expression skills. Through targeted practice in speaking and writing, students can effectively improve their language skills in practical communication, fostering more confident and fluent speaking and writing abilities. This personalized learning assistance also sparks students' enthusiasm and proactivity in language learning, leading to more significant progress in vocational college English learning.

## **5.3. Providing Real-time Grammar and Pronunciation Correction**

As an intelligent assistant, ChatGPT possesses natural language processing and speech recognition capabilities, enabling real-time correction and guidance for students' spoken and written language. For instance, in vocational college English writing classes, students engage in essay writing and interact with ChatGPT for writing assistance. During the writing process, ChatGPT identifies and corrects students' grammar errors, aiding in timely rectification of sentence structure and word usage issues, enhancing grammatical accuracy. Additionally, ChatGPT can offer semantic correction, assisting students in refining imprecise or vague expressions to achieve more authentic and fluid writing. In vocational college English speaking classes, students engage in dialogue practice with ChatGPT. The model continuously analyzes students' oral expressions, providing feedback and guidance on pronunciation, intonation, and speech pace. If students exhibit inaccurate pronunciation or speech intonation issues, ChatGPT offers corresponding guidance and correction, improving the accuracy and naturalness of their spoken communication. Through real-time grammar and pronunciation correction, students can promptly rectify errors in practice, gradually forming correct language habits and building confidence. This targeted correction and guidance greatly contribute to students' improvement in grammar and pronunciation proficiency, enhancing their language communication skills and boosting their confidence and competence in English learning.

#### 5.4. Enhancing Classroom Interaction and Q&A

Classroom interaction and Q&A foster more interactivity and participation in the learning environment. In vocational college English classrooms, teachers can introduce ChatGPT as a virtual teaching assistant for student queries and Q&A sessions. For instance, while explaining English grammar, teachers may encounter various questions from students. Through interaction with ChatGPT, students can ask grammar-related questions in real time, such as sentence structure and word differentiation. ChatGPT provides detailed answers and explanations based on students' inquiries. This interaction not only addresses student doubts but also encourages active participation and enhances students' interest and engagement in English learning. Furthermore, ChatGPT can engage in real-time interactive conversations with students, enabling them to reinforce classroom knowledge and assess their learning outcomes through communication. During this process, ChatGPT offers encouragement and affirmation, aiding students' continuous improvement in a positive learning environment. The application of classroom interaction and Q&A allows students to make the most of their class time, address queries, and acquire knowledge. Meanwhile, it provides teachers with a better understanding of student learning and feedback, aiding in adjusting teaching strategies and content to enhance teaching effectiveness and student satisfaction.

#### 5.5. Providing Real-time Feedback and Progress Tracking

Through conversational interactions and learning records, ChatGPT can analyze students' learning performance and progress in real time, providing personalized feedback and progress tracking based on data. For instance, during oral practice sessions with ChatGPT, the model can analyze students' voice intonation, pronunciation accuracy, and provide specific suggestions and corrections for accents and grammar errors. Similarly, if students engage in writing exercises and interact with ChatGPT, the model can track students' writing progress and grammar errors, identifying issues in writing and recommending relevant learning resources and practice questions to enhance writing proficiency. Additionally, ChatGPT can monitor and provide feedback on students' vocabulary learning and reading comprehension performance, recommending suitable reading materials and vocabulary exercises based on students' difficulties in reading. Through real-time feedback and progress tracking, students can gain a clear understanding of their learning status, identify issues, and adjust learning strategies promptly, thus improving the quality and efficiency of their English learning. This personalized learning support and accurate feedback offer a fresh educational experience in vocational college English learning, inspiring students' proactivity and enthusiasm in learning, while also enhancing the sense of accomplishment and motivation.

### 6. Conclusion

In vocational college English learning, the representative application of artificial intelligence, ChatGPT, offers vast possibilities for innovative teaching models. Through innovative educational applications of ChatGPT in vocational college English learning, students can benefit from personalized learning assistance, development of speaking and writing skills, real-time grammar and pronunciation correction, classroom interaction and Q&A, and more. ChatGPT's remarkable language generation abilities, contextual understanding, and multi-domain adaptability make it a promising tool with wide-ranging applications in the field of education.

### References

[1] He, S. H. (2022). *An Analysis of the Cultivation of Autonomous Learning Ability in Vocational College Students'*

*English Learning. Overseas English, (01), 53-54.*

[2] Deng, L. (2021). *Analysis of the Role of Network Information Technology in Vocational College English Learning. Shanxi Youth, (21), 126-127.*

[3] Zhang, C. Y. (2021). *Research on the Design of Vocational College English Learning Process in the Perspective of Deep Learning. Journal of Lvliang College of Education, 38(01), 115-116.*

[4] Diao, L. L. (2020). *Analysis of Strategies for Constructing Vocational College English Learning-oriented Classrooms Based on Informationization Means. Campus English, (19), 47-48.*

[5] Xie, D. B., & Wan, L. (2019). *Research on the Causes and Countermeasures of English Learning Difficulties of Vocational College Students. Journal of Wuhu Vocational and Technical College, 21(04), 33-36.*

[6] Chen, T. (2019). *An Investigation into Vocational College Students' Autonomous Learning Abilities in English Learning. Overseas English, (11), 72-73.*