Application of Virtual Reality Technology in Oral English Teaching for College English Majors

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Abstract: The purpose of this paper is to construct the application ideas of oral English Teaching for College English Majors based on virtual reality technology, so that the virtual reality technology can enable the education environment, improve the personalized learning experience, and make the oral teaching of College English major conform to the needs of information age, artificial intelligence era and 5G era.

1. Introduction
In the era of 5G and artificial intelligence, under the guideline of education informatization promoting education modernization, driven by technologies such as big data, cloud computing, deep learning, neural network, speech recognition, machine translation, virtual reality, augmented reality and hybrid reality, the language service and language teaching industry have undergone structural changes, and the traditional classroom in universities has transformed into a smart classroom inexorable trend.

Under the background of 5G and artificial intelligence, this paper takes oral English Teaching for English Majors in Colleges and universities as the research object, explores the teaching mode based on virtual reality technology, which is different from the traditional teaching mode, and realizes the practicability, efficiency, mobility and personalization of oral English Teaching for English Majors in colleges and universities. To promote the deep integration of educational information technology and oral English Teaching in Colleges and universities, and promote the reform of oral English Teaching for College English majors.

In the information age, foreign language teaching paradigm needs to be reconstructed (Chen Jianlin et al., 2019). At present, foreign language scholars' research on the deep integration of information technology and foreign language teaching mainly focuses on the development and application of foreign language information resources MOOC (Han Yanhui, 2019), flipped classroom (Su Xiaoli et al., 2019) and blended teaching (CAI Jigang, 2019). Unfortunately, there is no research on it at home and abroad. The research of oral English teaching mode for English Majors Based on virtual reality technology.

This paper aims to design a virtual reality based oral English teaching mode for English majors, so that students can better master basic knowledge and develop their own potential by adopting Online Autonomous Learning, offline cooperative learning and exploratory learning in the virtual reality environment, so as to make oral English Teaching for English majors meet the needs of 5G and
artificial intelligence era.

2. Research Basis

2.1 Theoretical Basis: Embodied Cognitive Theory

The theory of embodied cognition began with Lakoff and Johnson's "the embodiment hypothesis" (see zouhair, 2007; Jiang Meng, 2015) about the unidirectionality of metaphorical projection. As a new scheme to interpret and reconstruct human cognitive activities, embodied cognitive theory is widely used in artificial intelligence, robotics, cognitive psychology, developmental psychology, social psychology and other fields (Jiang Meng, 2015).

Human cognition, whether online or offline, is the product of body, environment and the interaction between body and environment (see Figure 1, Killeen & glenberg, 2010; see Jiang Meng, 2015). One of the five cores of embodied cognition theory is that the interaction between human body and environment (including natural physical environment and social cultural situation) is the source of all human cognition.

![Figure 1 "Individual Brain Centrism" Position of Embodied Cognition Theory](quoted from Killeen & glenberg, 2010:68; refer to Jiang Meng, 2015:70)

Virtual reality technology uses computer simulation to generate a three-dimensional virtual world (i.e. natural physical environment and social and cultural scenes), providing users with sensory simulation of vision and other senses, so that users can feel that they are living in the real language environment.

2.2 Technology Foundation: Virtual Reality Technology

In 1986, he published the first international paper on virtual reality system, "the virtual environment display system"; in 1994, he published the first international work on virtual reality technology, "virtual reality technology". In 2016, virtual reality and entertainment are widely used in various fields of China, such as virtual reality and entertainment. In addition, the field of education also began to integrate virtual reality technology into it, in order to improve the teaching effect. Opportunities and challenges for the development of foreign language teaching (Xu Jinfen et al.2019).

Virtual reality technology is a new practical technology developed in the 20th century. It uses computer simulation to generate a virtual world of three-dimensional space, providing users with visual and other sensory simulation, making users feel as if they are experiencing the situation, and can observe things in three-dimensional space immediately and without limitation. As an interactive simulation technology of multi-source information fusion, virtual reality can be used to create learning scenes, enhance learning experience and promote teaching innovation.
3. The Application of Virtual Reality Technology in College English Oral Teaching

3.1 Characteristics of the Application of Virtual Reality Technology in Oral English Teaching for College English Majors

Experimental psycholinguistics emphasizes the use of computational simulation to summarize people's memory, storage and retrieval mechanism of language, and its achievements have been applied in the fields of second language acquisition, foreign language teaching and so on (Hu Wenfei, 2016). The intelligent teaching mode of oral English for English Majors Based on virtual reality is one of the attempts, which has the characteristics of immersion, interaction and imagination, and can break through the traditional teaching The limitations of the environment, creating a very realistic situation, creating a strong sense of immersion, with rich natural interaction, is conducive to enhance learning experience, stimulate learning motivation, promote situational cognition and knowledge transfer, etc., which provides a guarantee for the effective teaching and learning of oral English for English majors.

3.1.1 Immersion

In English learning, the real scene of language use is very important for the understanding of knowledge and the cultivation of application skills. Virtual reality technology creates a highly realistic situation, in which students can immerse themselves in learning and using English, trigger the embodied experience, improve the efficiency of English learning, and promote the practical application of language.

3.1.2 Interactivity

The oral English teaching mode for English Majors Based on virtual reality can realize human-computer interaction and human-computer interaction, using students to interact with the characters in the virtual scene.

3.1.3 Creativity

English majors have different levels of oral English, and they also have different needs for oral English learning. In the intelligent teaching mode of oral English for English Majors Based on virtual reality, students can learn online independently according to their own needs. Virtual reality space is also conducive to students' creativity.

3.2 Application mode of virtual reality technology in oral English Teaching for College English Majors

Based on virtual reality technology, a set of personalized oral English teaching model for English Majors (OETM) is designed. This OETM covers all stages of oral English Teaching for English majors, and each stage is interrelated. As shown in
Figure 2: Oral English Teaching Mode for English Majors Based on virtual reality (OETM)

The oral English teaching mode for English Majors Based on virtual reality constructed in Figure 2, firstly, students can immerse themselves in oral English task environment through physical environment, cross-cultural environment, emotional environment and virtual reality environment. Secondly, on the basis of virtual reality and various network resources, students' perception is connected with various elements of virtual reality, and they can effectively transform and experience between real space and virtual space. Finally, the model can expand the students' perceptual experience of oral practice.

4. Conclusion
The application of virtual reality technology in oral English Teaching for College English majors promotes the construction and teaching application of offline virtual simulation course, realizes a new mode of personalized and intelligent foreign language experimental teaching, promotes the deep integration of information technology and foreign language experimental teaching in higher education, and the distance teaching represented by online course lacks real-time immersion situation and collaborative interaction. It is not conducive for students to establish knowledge system and realize knowledge transfer, and virtual reality provides an opportunity to solve this dilemma; it promotes the development of information and network in foreign language teaching, and realizes that classes will not be suspended in the context of public health emergencies (such as epidemic).

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