English Experiential Teaching Scheme Based on Computer VR Technology

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Abstract. As a new type of teaching media, VR technology is an educational information technology that uses computer simulation system information technology to generate and create a virtual experience world, build a three-dimensional "immersive" scene, and bring people an all-round experience of vision, hearing, and touch. It has the characteristics of immersion, interaction, and multi perception. English experiential teaching based on computer virtual reality technology is a new English teaching method. It aims to help students learn English in an immersive environment and improve their oral skills and vocabulary. ETCS uses a computer-generated virtual reality environment to allow students to interact with the language they have learned through games, simulations and other activities. In addition, teachers can use software such as Skype or Google Hangouts to communicate with students in class.

Keywords: VR technology · English · Experiential teaching

1 Introduction

With the continuous development of computer Virtual Reality (Virtual Reality) technology, it has become a very potential teaching means. By combining the virtual environment with the real world, computer virtual reality technology can provide students with a richer and more vivid learning experience. This paper will discuss the application scenarios of computer virtual reality technology in English teaching from the following aspects, and put forward the corresponding experiential teaching scheme [1, 2]. Computer virtual reality technology has great potential and application value in English teaching. By designing virtual learning environment, making virtual teaching materials, guiding students to study, providing real-time feedback and evaluation, students' learning interest and learning effect can be improved, and their English language application ability can be improved. However, computer virtual reality technology English teaching also faces some challenges, such as equipment and technical costs, teacher training and technical support, students' adaptation and so on [3, 4].

Y. Zhang and N. Shah (Eds.): BigIoT-EDU 2023, LNICST 580, pp. 405–411, 2024.
https://doi.org/10.1007/978-3-031-63130-6_44

2 Related Work

2.1 Research Status of Experiential Teaching

Although Confucius made it clear more than 2500 years ago that "traveling thousands of miles is better than reading thousands of books", a teaching concept based on experience, few people have systematically studied and practiced experiential teaching. In modern times, Tao Xingzhi put forward the "life education theory", which advocated that "life is education", "society is school", and "teaching and doing are integrated". He believed that students' learning should be combined with life practice, emphasizing "hands and brains", and acquiring knowledge in "doing" activities, indicating the importance of experience. On the basis of Tao Xingzhi's theory, Chen Heqin put forward the theory of "living education", advocated the curriculum concept of "living textbooks", In order to make better use of computer virtual reality technology in English teaching, it is necessary to explore and innovate constantly to solve these challenges. At the same time, he also put forward the methodology of "teaching by doing, learning by doing, and making progress by doing", which deeply reflects the idea of experiential teaching. In the sixth part of the report on the work of the Fourth National Youth Congress held in 1999, the National Youth Working Committee clearly put forward the educational idea of "experience in practice". In 2001, a new round of basic education curriculum reform in China was officially launched. Changing teachers' teaching methods and students' learning methods is the main content of this curriculum reform, and experiential teaching is one of the teaching methods advocated by the new curriculum reform [5]. After the new curriculum reform advocated experiential teaching, domestic researchers began to enrich their research on experiential teaching, and there are more and more literature on experiential teaching research.

2.2 Domestic Research Status of VR Technology

With "VR technology" and "teaching" as the key words, the search of "VR technology" and "ideological and political course teaching" was carried out in resource databases such as CNKI, Readshow, and library books. The search results showed that there were only 25 articles, and the first core journal article was Xiao Yongmei's article "Talking about the virtual environment and its construction of Computer virtual reality technology can help students better understand and master English knowledge" published in Education Exploration. The article described the concept, characteristics This paper discusses the ways to strengthen the integration of virtual and reality from three aspects: online and offline linkage, specialized and concurrent cooperation, and the combination of self-discipline and heteronomy [6]. Finally, it is suggested to strengthen the network subculture communication circle in colleges and universities as an effective measure to make a new attempt for the research of virtual environment According to students' learning needs and level, provide personalized learning content and teaching methods ideological and political theory courses or ideological and political education and VR technology in colleges and universities has gradually risen, and 12 core journal articles have been consulted, mainly focusing on VR immersive teaching design and advantages, analyzing existing articles, and proposing solutions to problems. For example,

Liu Xingang and Pei Zhenlei published the Theoretical Investigation on the Application of Virtual Reality Technology to Ideological and Political Education from the Perspective of Marx's Theory of Real People in Research on Ideological Education, Zhao Liang and others published [7]. In 2018, the research on VR technology and junior high school English teaching was Liu Yang's Research on VR based Situational Teaching of Ideology and Morality in Junior High School, Shenyang Normal University. The paper compares the characteristics and requirements of traditional situational teaching with those of VR technology situational teaching, and selects the teaching content of a course to analyze students' classroom learning behavior through classroom demonstration.

3 VR Technology and Experiential Teaching

3.1 VR Technology

VR technology is a new educational information technology. Its core is a virtual simulation system created by computer technology, which provides a three-dimensional dynamic space for user experience. Using proprietary technology and equipment. Equipment and technology costs: Computer virtual reality technology requires appropriate equipment and support systems, which can increase the cost of teaching. To solve this problem, existing hardware devices and technical resources can be utilized, such as the use of smartphones and tablets for virtual learning.

Teacher training and technical support: Teachers need to be trained and aware of computer virtual reality technology to be able to make the most of it for teaching. To address this issue, schools can organize relevant trainings and workshops to provide technical support and guidance.

Student adaptation issues: For some students, computer virtual reality technology may be a new concept and experience, and it may take a while for them to get used to and embrace this way of teaching. In order to solve this problem, the teaching of computer virtual reality technology can be gradually introduced, so that students can gradually adapt and enjoy this way of learning (Fig. 1).

3.2 Experiential Teaching

"Body" means to experience and put oneself in the position of one's own, while "experience" means to observe and verify feelings. Because of the emphasis on personal experience and practical feelings, what you experience can leave a deep impression in your brain. From the perspective of psychology, experience is a "rational intuition" and a special activity established by individuals on the basis of internal perception. From the perspective of individual life course, individuals acquire scientific knowledge and master skills through personal experience. Experiential teaching refers to a teaching method that allows students to experience, understand and construct knowledge, develop ability and generate emotion by creating actual or simulated situations according to the development characteristics of students. Experiential teaching takes the development of human life as the foothold and foothold, emphasizes respecting and expanding life, and contains high life value and significance [9].

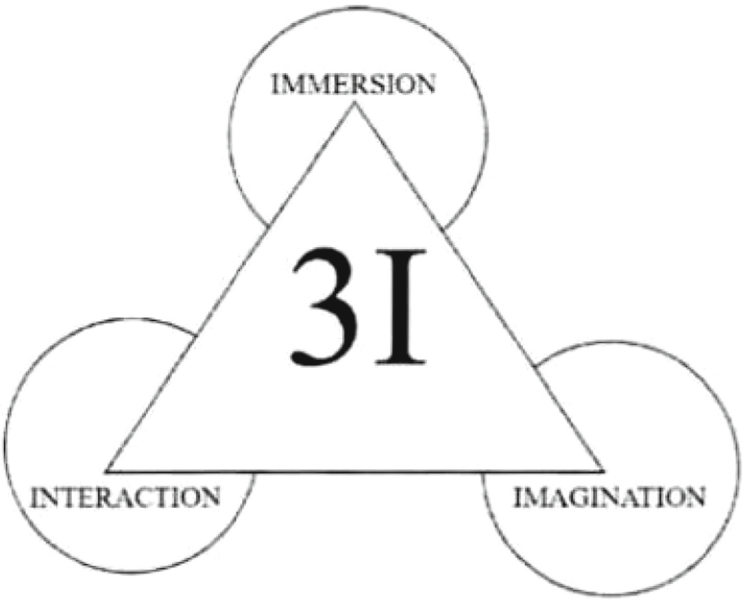

Fig. 1. VR Technology 3I Features

Design a virtual learning environment: Design a virtual learning environment that meets the needs and interests of students based on instructional content and goals. For example, a virtual city scene can be designed, including streets, shops, parks, etc., for students to learn and communicate in a virtual environment.

Production of virtual teaching materials: According to the teaching content and objectives, the corresponding virtual teaching materials are produced, including pictures, audio, video and other multimedia resources. For example, a virtual English speaking textbook can be produced, including conversations and related audio and video materials for various everyday life scenarios.

Guide students to learn: Stimulate students' interest and enthusiasm for learning by guiding students to carry out learning tasks and activities. For example, some gamified learning tasks, such as puzzle solving, role-playing, etc., can be designed to allow students to improve their English skills while completing the tasks.

Provide real-time feedback and assessment: With computer virtual reality technology, students' learning can be monitored in real time and feedback and assessment can be given in a timely manner. For example, students' language expression and comprehension skills can be assessed through the speech recognition and semantic analysis functions of virtual characters (Fig. 2).

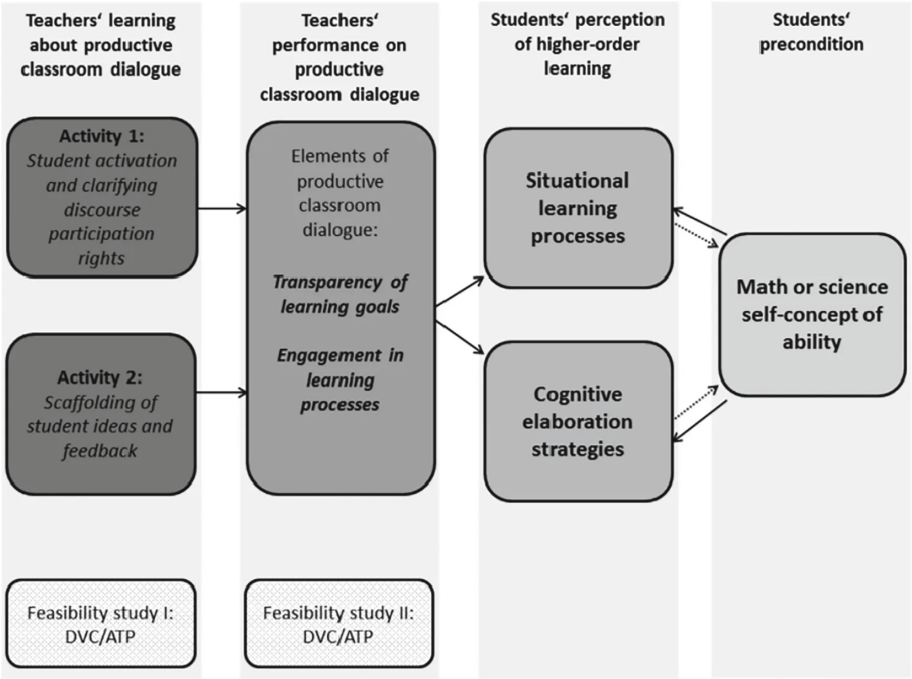

Fig. 2. Experiential teaching mode

4 English Experiential Teaching Scheme Based on Computer VR Technology

4.1 Teachers Change Their Outlook on Teachers and Strive to Be Professional Teachers in the New Era

First of all, teachers should establish the concept of lifelong learning. At present, VR technology has been included in the 13th Five Year Plan of China's education informatization, and is regarded by education experts as an important education technology in the future teaching field. Therefore, teachers should actively learn VR technology and teaching related teaching content, learn to combine VR technology, and develop VR moral education courses that meet the junior high school English syllabus and curriculum standards, meet the current junior high school English core literacy requirements, meet their own actual teaching needs, and can help students develop physically and mentally healthy.

Secondly, teachers should change their ideas and break the traditional occupational orientation. Teachers are not only the imparters of knowledge, but also the innovators and researchers of knowledge teaching. Teachers should learn about VR technology teaching theory through TV, newspapers and the Internet, strengthen communication and exchange with VR education researchers, and dare to design virtual experience in experiential teaching of junior high school English classes [10].

4.2 Teachers Should Change Their Outlook on Students and Cultivate Innovative Talents in the New Era

At present, middle school students still play the role of bystanders or "knowledge memorists" in the experiential teaching of junior high school English classes, and do not really participate in the experiential teaching of junior high school English classes. VR technology is applied to the experiential teaching of junior high school English classes. Teachers should change their views on students, regard students as "experiencers" of experiential teaching, and let students really participate in the virtual experiential teaching. According to the teaching content of junior high school English course, using the characteristics of VR technology sharing and interaction, we can freely transform the virtual experience situation, set up problem situations that stimulate students' learning motivation, and let students self represent problems and actively explore under the natural interaction state. Students conduct new experiential learning through the link of "immersing in virtual situations" - "feeling virtual situations" - "experiencing virtual situations", so that students can become talents with exploration spirit and innovation ability.

4.3 Teachers Change Teaching Methods and Introduce New Modern Teaching Methods

Teaching means are an important medium for teachers to teach, a bridge for emotional communication between teachers and students, and an important tool to stimulate students' learning motivation and enhance teaching effectiveness. New teaching methods add luster to teachers' classroom teaching. VR technology is a new educational information technology and a modern teaching method. Teachers should pay attention to the unique role of VR technology in junior high school English teaching. Its remarkable immersive interactive experience feature surpasses the previous multimedia teaching technology, allowing students to transform their learning from a two-dimensional plane, rational learning into a three-dimensional perceptual learning.

VR technology applied to the experiential teaching of junior high school English classes provides a new teaching medium for teachers to carry out emotional teaching and students to carry out experiential learning, brings unique experience to teachers and students, enhances the emotional rendering power of junior high school English classes, and truly gives play to the emotional education function of junior high school English classes.

In a word, the application of VR technology in experiential teaching of junior English requires teachers to change their views on teachers, students and teaching methods, and attach importance to the learning and application of VR technology; Pay attention to the important role of VR technology in students' moral education; Only by attaching importance to the function of VR as an emotional medium in teaching can it be widely used and the experiential teaching of junior English lessons play its due value.

5 Conclusion

Experiential teaching emphasizes that learners should fully participate in teaching activities and get practical feelings through personal practice. Due to their early accumulation, life experience and other differences, each individual will get different feelings in the experience. Some of these feelings can be described in words, while others can only be understood. Therefore, when teachers carry out experiential teaching activities, they should create an experiential teaching environment so that each student can fully participate in the experiential teaching activities and fully feel, experience and comprehend. This experience may not have an obvious impact on students in a short period of time, but it will imperceptibly affect students' behavior, which will be unconsciously displayed under a certain stimulus in the future, and gradually internalized, affecting students' thoughts and behavior.

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