

# Research on the Application of Virtual Reality Technology in Secondary Vocational English Teaching

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## Abstract

English as a contemporary Chinese students must master a second language, occupies an important position in teaching, language learning needs certain environment, while bring a certain amount of multimedia assisted teaching effect, but with the rapid development of science and technology, new teaching media began to emerge, virtual reality technology become a new type of teaching media in the field of education technology. This mainly explore the application of virtual reality technology to English teaching of technical secondary school, on the basis of situated cognition theory, Dewey's theory of student-centered basis, to explore the rationality of the virtual reality technology into secondary vocational English teaching, effectively improve the existing secondary vocational English teaching mode, improve the overall level of the students' English, also from the source to improve students' oral English learning level, to explore the application of VR auxiliary teaching of secondary vocational English course, virtual reality technology can bring more powerful visual auditory sense new experience, virtual reality technology applied in secondary vocational English teaching, not only brings to the secondary vocational students to learn English is convenient, Moreover, it will also have a significant education effect and fully mobilize the interest and enthusiasm of students in learning.

## Keywords

Virtual reality, vocational English, application.

## 1. Overview of Virtual Reality Technology

### 1.1. Concept of Virtual Reality Technology

In the 1990 s, the initial rise of virtual reality, virtual reality technology using the computer to generate a simulation environment, establish a system can experience the virtual world of technology, is an important direction of simulation technology, the virtual environment is through the computer software, hardware, all kinds of sensors to build three-dimensional information of artificial environment, the realistic simulation of the real world can simulate that environment and is not, people in the virtual environment is like place oneself in the real world, real and natural interact with virtual environment. In the virtual three-dimensional space, can be used for simulating people's perception, vision, hearing, force sensing, movement, touch and even smell and taste, etc., and real-time interaction with the user, the virtual reality technology to set the computer graphic technology, simulation technology, artificial intelligence technology, sensor technology, computer network parallel processing technology, such as immersion, interactivity, imaginative, etc.

## **1.2. Features of Virtual Reality Technology**

### **1.2.1. Immersed Sex**

Immersion is also known as the sense of presence. Due to the multisensory perception and autonomy of virtual reality technology, people generate the sense of reality of the real environment in the virtual environment and obtain the authenticity of the experience, which makes it difficult to judge the reality of the current environment, so that they are completely in the virtual world and are surrounded by the virtual world.

### **1.2.2. Interactivity**

Interaction refers to the user in the virtual environment, through various forms to interact with virtual environment, the traditional keyboard mouse can interact, more is to interact with the help of a 3 d interactive equipment, through the data glove, handle and stereo glasses, 3 d space interaction and sensing devices, such as position tracker to interact with virtual environment, a virtual environment all elements in the receiving behavior from experience, and generate a reasonable response and feedback.

### **1.2.3. Imaginative**

Through virtual reality technology can achieve a lot in reality do not or cannot be done, in the virtual environment for all kinds of experience and behavior, by association in the process of thinking, logic and reasoning can also react on real-world experience and cognition, gain more knowledge.

## **1.3. Application Fields of Virtual Reality Technology**

Virtual reality technology application scope is quite widespread, is developing rapidly in recent years and widely used in medicine, entertainment, military aerospace, interior design, real estate development, industrial simulation, restore ancient cultural relics, education and other fields, and made significant meaning. Such as medicine, with the aid of virtual reality technology can clearly understand the structure of the human body each part of the organ, the operation practice of virtual human body model and the procedure of information guidance, play an important role. Field of interior design, virtual reality technology can also be used as a design tool, the user through the experience of virtual indoor environment also can have a better choice and idea expression, but also to save time and make the cost of the model. Virtual reality technology applied in the ancient cultural relics recovery field, make the because history can't recover or high cost of restoration of cultural relics of healing, picture reappearance of history, which makes the previous history has a more in-depth knowledge and understanding, etc.

## **2. Theoretical basis for the Application of Virtual Reality Technology in Teaching**

### **2.1. Situational Cognition Theory**

Learning is a process of dynamic role between knowledge and the situation is situated cognition theory emphasis, don't think practice situation and independent learning, knowledge is contextualized is known and go through the activities of the continuous development in the interaction, auxiliary way is in the process of learning and cognitive activity, is closely connected with the acquisition of knowledge. Virtual reality technology plays a role in English teaching, providing auxiliary learning situations in the process of English learning, which is more conducive to the learning of English knowledge context and western English culture.

### **2.2. Student-Centered Theory**

Student-centered theory originated in Dewey's "children's dilemma", Dewey is renowned American education, as well as a philosopher, he believes in the process of education should respect the nature of children, children's mind, the thought of "child centered" Dewey further

use of secondary school, university became today we advocate the idea of student-centered, Dewey advocates student-centered and he doesn't completely deny that teachers' role in the process of teaching, even think that student-centered mode requires teachers pay more labor, break through the teacher-centered teaching mode, student-centered learning is active learning, Student-centered learning is a new system and high-tech environment under the support of learning, virtual reality technology application of secondary school English teaching, students take the initiative to independent personality in the real situation of the virtual learning.

### **2.3. Immersion Theory**

Flow theory is mainly to explain why people spirit highly concentrated, or make a commitment to some daily life activities, all its unrelated perceptual filter out, forming a state of complete immersion, such as Xi Zhi Wang eat ink to the state. Along with the development of computer technology, the flow theory also extends to the impact of man-machine interaction for the work and provide two main features of immersion: completely focus on activities, in activities are led out of psychological enjoyment. Virtual reality technology applied to English teaching, to simulate and design a high simulation environment of English teaching, the students in English learning environment will be generated virtual reality technology due to its high simulation and immersion, so as to forget the existence of computer equipment, experience the real virtual environment and experience the fun and rich knowledge, and to improve students' interest and motivation in English learning.

## **3. Current Situation and Existing Problems of Secondary Vocational English Teaching in China**

### **3.1. The English Foundation of Secondary Vocational Students Is Relatively Poor**

Due to various reasons such as a result of college expansion, in recent years in secondary vocational school students' cultural level is generally decline, most secondary vocational students is not normal to did not finish high school or junior high school to learn skills and learning into the secondary vocational schools, their cultural achievement is not high, including English, English is relatively poor, word literacy quantity is limited, grammar, oral English ability, writing ability is relatively poor, only a few students have corresponding English ability.

### **3.2. Students Do Not Pay Enough Attention to English Learning**

Secondary vocational students is generally believed that their learning is focused on the skills of learning, English is a course to let them have a headache, but also for their learning professional skills and have no relationship and influence, they think that participating in various skills contest, prize, more to learn professional courses knowledge solid grasp firmly is the guarantee of their future employment, learning English is a waste of time, to produce a broken broken falls in English learning attitude, ignored in the contemporary economy and technology highly developed today, all kinds of English learning is inseparable from the aspects of professional and technical knowledge, but also to the requirement of English is more and more high.

### **3.3. It is Difficult for Traditional Teaching Methods to Stimulate the Learning Motivation of Secondary Vocational Students Who Are Not Interested in English**

Secondary vocational English courses still adopts the traditional teaching way, the students listen to the teacher tells phenomena are widespread in the secondary vocational English classroom teaching, give priority to in order to teach the traditional teaching mode focuses on

the learning of English language form and language knowledge, neglected the student centered teaching, the students in the classroom still is passive to accept knowledge, rather than to explore knowledge actively, which makes the original English foundation weak secondary vocational students more lose interest in learning, and even sleep in English class.

### **3.4. Relatively Weak Infrastructure and Insufficient Attention of Teachers and Schools**

English teaching in secondary vocational school infrastructure is relatively weak, on the one hand, because the school enrollment scale, the increase in student Numbers, the school attaches great importance to the neglect of professional course equipment update English teaching facilities, the original voice equipment aging, backward influence English teaching, which leads to the quality and level of English teaching cannot ascend, on the other hand, the secondary vocational school teachers, the influence of English learning concept also on students' English learning is relaxed, part of the English teachers' education concept and there is a deviation, the software is suitable for the basis of secondary vocational students' English learning is also not applied to the teaching in time.

## **4. Advantages of Virtual Reality Technology in Teaching English in Secondary Vocational Schools**

### **4.1. Visualize the Content and Promote the Knowledge Construction**

Virtual reality technology applied in English teaching, not only can break the limitation of time and space, so that the students in the classroom can wander around the world, real or imagined scenario can be achieved by virtual reality, and between heaven and earth, floating in space for a knowledge of English is more intuitive, clear, clear, and to provide a new learning environment for students, is also more conducive to the construction of students' English knowledge.

### **4.2. Create An Interactive Atmosphere to Stimulate Students' Interest**

In virtual reality environment of English students to interact with various virtual things, this interaction is also based on secondary vocational students' English teaching content, compared with the real environment, a lot of miscellaneous element interference was removed, the students' interest in learning more strong, enthusiasm is very high, it is quite important for secondary vocational students, only they are genuinely interested in English, and take the initiative to learn, to master English knowledge better.

### **4.3. Simulate the English Situation and Innovate the Teaching Mode**

Virtual reality technology applied to English teaching, the creation of a virtual and real English communication need real situation, break through the bondage of the traditional teaching mode in the virtual English context, the students can communicate with virtual character, also can undertake between students and students, the communication between students and teachers, the students can be independent of human-computer interaction, through visual sense, hearing, touch, etc have reaction with the outside world, the students can develop and organizational learning plan, schedule, and to carry out self-assessment, to carry out the suitable for their own learning mode, personalize learning.

## **5. Application of Virtual Reality Technology in Secondary Vocational English Teaching**

### **5.1. Virtual Reality of English Classroom**

According to Dewey's student-centered education thought, students are active learning, "student-centered, teachers under" teaching model more in line with the contemporary students' learning, nowadays most classrooms have multimedia devices, but is still a teacher dominance, though students can use the courseware, audio, video, images, and other auxiliary English learning, but to mobilize the initiative of the students is still not high, especially secondary vocational students basic knowledge of English is weak. In English classroom teaching, through the virtual reality technology and equipment to realize the contents of the secondary vocational English classroom teaching, the teacher in the classroom teaching the students into virtual in the English classroom, in the virtual classroom English, according to each class corresponds to different modules and different tasks and overcome difficulties, with the corresponding virtual environment of each class, students in the virtual environment using English to communicate and exchange, in the master of knowledge in every class. If the unit is about foreign food culture related content, through the virtual reality technology to realize virtual scene, and the cell contents apt student through the scene feeling foreign food culture, and in accordance with the guidelines, complete different cognitive modules about the content of the diet culture learning task or games, so that the students have more in-depth knowledge of the content at the same time improve my English.

### **5.2. Virtual Reality Independent Learning Community**

Secondary vocational English virtual reality not only provide classroom books associated with learning, students can enter and many times for learning and knowledge of the review, so that the students in class after class to review and consolidate knowledge, also provides the related modules outside learning, students according to their own interest to choose its own modules of English activities, such as singing, movie role play, drama, such as reading, students according to their English level, interests and hobbies, their own characteristics to choose virtual English activities, such as virtual community as the extension and complement of classroom teaching, also can make students to study independently, to improve students' consciousness of learning, because in the virtual environment, Students can engage in more relaxed English - related activities and achieve more significant learning results.

### **5.3. Virtual Reality of English Writing and Oral English**

English writing and oral communication skills make most secondary vocational students feel headache. Writing is mostly Chinese mind, write articles in English professional basic read impassability, don't understand, most of grammar errors, word error conditions but also happen from time to tome, for articles subject to grasp is not enough, often appear are significantly different phenomenon, through the establishment of English writing module, virtual reality so that the students in the virtual environment for the writing of the article, different subject through the portrayal of virtual reality technology will also be present in front of students, make students better play imagination to create more excellent articles. For oral English training and corresponding to the corresponding module, so that the students in the virtual world and different industries, different periods of character dialogue, full English communication environment can promote students' oral English ability quickly, creating a good environment for language acquisition, make learning English more easy and quick.

## **6. The Role of Virtual Reality Technology in English Teaching needs Long-Term Exploration**

### **6.1. Virtual Reality Experience Needs to Be Strengthened**

Virtual reality of multi-sensory experience is quite seriously, but because of the limitation of technology still can't completely simulate human's perception, the simulation of some feel, touch is still a lot of differences with real experience, and a lot of products in order to profit, its virtual scene also relatively poor, unable to experience the real feeling, also is bad for students to study in the virtual environment, affect students' learning interest and enthusiasm.

### **6.2. The Technical Problems of Virtual Reality Itself Need to Be Strengthened**

Virtual reality technology as a new technology, its hardware and software is in developing, some experiences are reaction wearing VR glasses for a long time, will produce the feelings such as dizziness, this also leads to no matter how good learning effect, virtual reality can bring students can't long time in the virtual environment for learning, it also needs to be virtual reality sensing technology, image processing technology, simulation technology of further development and improvement.

### **6.3. Virtual Reality Technology and Secondary Vocational English Teaching Content Need to Be More Appropriate**

Virtual reality technology applied in English teaching at present stage, and the fit of English teaching is not high, still need to improve the education content, according to the reason for this is that engaged in English teaching of outstanding teachers and education experts don't know the virtual reality technology, virtual reality technology personnel is not mostly scholars engaged in the work of education, in the development of English content is not in conformity with the English teaching content set, appear even content arrangement is not reasonable, more serious cause some common-sense English mistakes.

### **6.4. Lack of Interdisciplinary Talents**

The lack of interdisciplinary talents will not only lead to virtual reality English content set, can also affect the implementation of virtual reality teaching, most English teachers lack of computer knowledge, itself is relatively headache for making courseware for teachers of English, for virtual reality this emerging technology is to touch the mind, lead the student to carry on the virtual classroom learning English more difficult.

## **7. Conclusion**

Virtual reality technology should be English secondary vocational English teaching, not only can stimulate students' interest in learning and motivation, solve the problems of the students learn English lack context, arouse students' interest in oral English learning, teachers will help to solve the bottleneck in English teaching, although the virtual reality technology in hardware and software aspects there are still insufficient, but virtual reality is applied in English teaching, and assist teachers better knowledge of English, thus effectively improve student's learning effect, more conducive to the development and progress of students.

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