

Research Article

Research on the Construction and Development Prospect of Aided Business English Teaching System Based on Computer Multimedia Technology

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The intervention of multimedia technology has had a profound impact on education, which has led to the renewal of educators' ideas, the renewal of educational means, and the renewal of educational forms. To some extent, the influence of multimedia technology on educational technology has opened a new chapter in educational reform. It can be said that the powerful advantages of multimedia education technology promote the pace of teaching reform and conform to the needs of the development of the times. This paper mainly analyzes the research on the construction and development prospects of the business English teaching system based on computer multimedia technology, uses the computer vision technology to collect teaching information, and then uses VR for teaching. Computer vision mainly studies how to use video sensing devices and computers to simulate the human visual system to collect and process external visual information, so that machines have the same visual ability as humans and even have the ability to "think." Through virtual teaching design and research virtual teaching methods, combined with the characteristics of business English subjects, the computer vision technology is connected with business English course teaching to develop new teaching methods for business English subjects; analyze the teaching purpose, content, and feasibility; and investigate the difficulties and needs of students in business English subject learning to determine the educational methods in a smart environment application in actual business English teaching. This article uses literature research method, questionnaire method, experimental research method, and interview method to conduct research. At the same time, this article also uses Maya and other software multidimensional design functions to explain the educational methods in a smart environment; set up a virtual hypothesis experiment to objectively analyze the development prospects of educational methods in an intelligent environment in business English teaching from the aspects of curriculum teaching, classroom effects, and learner efficiency; and summarize the parts that need improvement.

1. Introduction

Today's technology is changing rapidly, and human-computer interaction has undergone several iterations. Nowadays, the widely used graphical interface and touch interaction method are not the most suitable for human interaction habits; therefore, the human-computer interaction method based on computer vision is gradually transferred from the academic research field to the modern application field. Virtual reality technology has been recognized by more and more people, and users can experience the most real feelings in the virtual reality world. The

authenticity of the simulated environment and the real world are indistinguishable, giving people an immersive feeling. It has a broad development prospect and is of great significance to national economy and social development. There are many scholars and researchers who are concerned with the application of computer vision in various aspects [1, 2]. In this paper, we discuss how to improve the efficiency of business English teaching through computer vision and business English teaching. In this paper, we use computer vision technology for video analysis to obtain relevant information, which is necessary for effective detection and tracking of key parts of students, and then use virtual reality

technology (VR technology for short) to modernize teaching. This will allow more knowledge to be learned in less time, increase the interest and context of the classroom, and students may achieve better results in their business English subjects. The purpose of this paper is to research and discuss the construction and development prospects of the business English assisted teaching system based on computer multimedia technology, in order to make certain contributions to business English.

The business English classroom teaching under the application of virtual reality technology emphasizes the game, interest, and scene. From the familiar imitation to the familiar skill, it is necessary to reproduce the scene countless times. Using VR technology, the scene and sound stimulation displayed by its education mode can continuously strengthen students' imitation and memory. Different virtual environment can also bring students different learning experience. And the game way behind it is even more interesting. The combination of VR technology and business English teaching can make the focus of business English education shift from increasing students' knowledge to improving students' cognitive ability. For students, it can be more focused and immersed in learning and increase learning efficiency. In addition, thanks to the support of relevant national policies, VR technology has developed rapidly. Therefore, whether it is primary school, junior high school, high school, or even university, it is necessary to apply VR technology to business English teaching.

From the practical application, first of all, VR technology education methods applied to business English teaching can create a realistic business English learning scene. The combination of VR technology and subject characteristics can make theoretical business English learning more practical. For example, teachers can simulate a variety of scenes in the classroom; let students have a virtual dialogue through pictures, sounds, and plots, so as to realize the charm of business English. Second, the application of VR technology in business English teaching can produce more advanced business English teaching courseware. Compared with the traditional PPT and video courseware, the new courseware supported by VR technology will attract more students, create a good classroom atmosphere, and enhance the innovation and novelty of business English teaching activities in an all-round way. Finally, the application of VR technology in business English teaching can solve the problem of imperfect teaching evaluation system to a certain extent. At present, no matter in middle schools or colleges, the emphasis has been shifted on students' achievements, while ignoring whether the teaching methods and processes of teachers are reasonable. Based on the application of virtual reality technology in business English teaching, this paper focuses on strengthening practical application, designing business English classroom teaching model, and exploring the influence of virtual reality technology on business English teaching.

In the process of research, we will first collect certain literature related to the application of VR technology in business English teaching through the major portals. And through the understanding of the literature, in-depth

understanding of VR technology education methods and business English teaching strengthen the logic and scientific research. Second, by means of questionnaire and interview, this paper collects the hardware and software facilities of middle schools and universities. To understand the attitude of teachers and students on the application of VR technology in business English teaching, through the questionnaire survey, this paper analyzes the feasibility of applying VR technology to business English teaching. At the same time, pay attention to the problems and difficulties reflected in it and think about feasible solutions. In order to promote the application of VR technology in business English teaching and explore the practical market breadth, using the experimental research method, two groups were set up: the control group and the experimental group. The control group was the traditional business English teaching method, and the experimental group was the teaching method of applying VR technology to business English teaching. Through a period of observation, collect the classroom effect, student achievement, students' interest, and other indicators and use statistical knowledge to analyze and draw a conclusion.

The innovations of this paper are as follows: (1) The related technologies of computer vision are introduced. (2) An educational method combining computer vision technology with virtual teaching is proposed. (3) The combined educational methods are analyzed experimentally in business English.

2. Application of Related Methods

2.1. Literature Research Method. At present, in the information age, the research on VR technology at home and abroad has been a hot spot [3–5]. In the domestic research, we focus on the following two aspects; the first is the virtual simulation campus. Virtual simulation campus focuses on the influence of campus culture and campus atmosphere on education and teaching. The earliest research is Tianjin University and Zhejiang University, followed by the school of distance education of Central Radio and Television University, which developed virtual reality technology engine to simulate campus operation, and multidimensional visualization technology penetrated into all aspects. The second is virtual teaching. Virtual teaching is the use of VR technology, with the characteristics of virtuality, plays an important role in the teaching of electronics, medicine, architecture, and other subjects. It is worth mentioning that the school of architecture of Tongji University has a virtual laboratory. In this laboratory, VR technology can be used to reproduce the interior scene of the building, so that students can experience more comprehensive knowledge of architecture. In the foreign VR technology research, compared with domestic, foreign countries are in a more advanced research position. VR technology originated in the United States, and the United States has a more in-depth study of VR technology. In Europe, the UK is in the lead. In the global VR technology application research, China has more economic investment and has issued many laws and regulations to support the development of VR

industry. This year, China's VR industry market scale is also expanding.

2.2. Questionnaire Research Method. Through a large number of questionnaires and interviews, this paper analyzes the application of VR technology in business English teaching from the aspects of curriculum teaching, classroom effect, and learner efficiency. The authenticity, innovation, and exaggeration of VR technology can be widely used in business English. The visual, tactile, and auditory information produced by the real and natural virtual scene can give students a real experience [6, 7]. Especially in the language discipline like business English, it is easier for students to have real feelings when talking with characters in the virtual world. In addition to traditional business English teaching, teachers can make virtual scenes and courseware with the help of VR technology to provide students with infinite space for aftertaste. Teaching design is a process of analyzing teaching problems and clarifying teaching objectives, setting methods to solve teaching problems, evaluating trial results, and revising deficiencies. Virtual reality technology provides a new possibility for business English teaching methods [8–10]. It can create a new learning scene for students. It can make up for the existing boring teaching system. With the continuous development of VR technology, the application prospect will be more extensive, not only for the current business English subject research but also for the future education industry.

2.3. Experimental Research Method. The subjects of this experiment are from a senior high school in this city. Two classes of grade two are selected as the control group and the experimental group, respectively. Boys and girls account for 50% of the total. The age is between 15 and 18 years old. The mother tongue is Chinese, and the second language is business English, and the scores are similar. Both classes are taught by the same teacher. The control group is the traditional business English teaching method, and the experimental group is the teaching method of applying VR technology to business English teaching. In the early stage, through a month's observation, collect and record the classroom effect, students' scores, students' interest and other indicators, and use the analysis of variance and distribution column and other statistical methods to analyze and draw a conclusion. At the end of the study, random interviews were conducted with school leaders, teachers, and students at the same time, and their opinions, questions, and suggestions on the application of VR technology in business English teaching were asked. After class, questionnaires and regular business English test papers are distributed in time. The results were analyzed by SPSS software. In this experiment, we should pay attention to the control of single variable to prevent the influence of congenital conditions and psychological factors on the experimental results.

This experiment will be more practical, and full display of students' business English learning form under VR technology. The application of VR technology in business English teaching enables students to break the limitation of

time and space, learn business English-related knowledge, and experience the advantages of virtual learning in a more vivid and interesting atmosphere and more free and broad time. The situation courseware made by teachers brings a sense of freshness, which enables teachers to find new points in the repeated knowledge points for many years and to think more deeply about teaching strategies. We can also more clearly observe the advantages of VR technology applied to business English Teaching in classroom, after class, teachers' teaching, and students' psychology.

2.4. Computer Vision-Related Technologies. Vision is one of the most important ways for humans to obtain information from the outside world. Computer vision is a simulation of biological vision using computers and related equipment. Its main task is to obtain three-dimensional information of the corresponding scene by processing the collected pictures or videos, just as humans and many other creatures do every day. Computer vision mainly studies how to use video sensing devices and computers to simulate the human visual system to collect and process external visual information, so that the machine has the same visual ability as humans and even the ability to "think." Using the camera and other imaging equipment to collect images, video, or multidimensional data and other digital signals as information input, and then burst into the use of computer processing of this information to achieve the detection, recognition and tracking of the target and other functions, and finally to produce the appropriate judgment and interpretation of the requirements. Computer vision is to use various imaging systems to replace the visual organ as an input-sensitive means, and the computer replaces the brain to complete processing and interpretation.

3. Virtual Teaching Experiment

3.1. An Educational Method Combining Computer Vision Technology and Virtual Teaching. This paper used the Internet to build a ubiquitous learning environment. Smart tags can be used to identify the objects that need to be learned and to adjust the learning content according to the students' learning behavior records. This is an extension of traditional classrooms and virtual experiments. Virtual teaching is to use virtual reality technology to make the teaching process into the form of animation, but it is more interactive and realistic than animation, and it can reach the level of complete simulation. In space and interactive links, through field inspections, and practice, students' experience is enhanced. For example, in the practical teaching of biology class, students need to identify various plants on campus. You can paste labels with QR codes for each type of plants. After students find these plants outdoors, they can not only know the names of the plants but also the mobile phone to identify the two-dimensional code to obtain the expanded content of related plants from the teaching platform. Combining the computer vision technology with virtual teaching [11, 12] can break through the traditional boring teaching methods and truly provide services for teaching and

learning between teachers and students in business English teaching, which includes the following three aspects: the first is teacher virtualization. Teachers can use virtual reality technology to implement virtual teaching. In addition to making virtual courseware, they can use intelligent agents as teachers to assist in business English classroom teaching. According to the network information technology to realize part of artificial intelligence teaching, reduce the teaching pressure of teachers, so that they have more time for students' psychological counseling and knowledge research. The second is student virtualization. The virtual teaching middle school can not only meet students of different ages and experience in learning but also can conduct experimental research and point discussion with virtual students created by the system, which provides a certain way for realizing the concept of teaching students in accordance with their aptitude in business English teaching basis. The last is the virtualization of teaching resources. The teaching resources in virtual teaching will not only be limited to a book, a pen, and a learning aid but also richer and unique resources, such as a virtual experiment, a virtual courseware, and so on, which will improve the teaching resources. The tangible and the intangible are completely combined. It provides certain solutions to the problems of expanding the school's enrollment scale, shortage of resources, and testing equipment. In the field of education, the application of virtual reality technology in China is still in its infancy, but its development prospects are immeasurable. Immersive experience and perception are far more convincing than empty and abstract lectures. Active interactive experience and passive viewing have qualitative differences and feelings for students.

Teachers' teaching tools and students' learning tools have also changed greatly with the changes of history, from the teaching tools made of bamboo and iron at the beginning, to the later automated learning tools, to the popular virtual reality teaching software [13, 14]. Compared with previous teaching tools, virtual reality technology uses a variety of different expressions to help teaching. First, the physical tools used in the teaching process in the past are presented through virtual means, such as virtual compasses and geometric devices. Second, various new resources, such as virtual simulation experiment software, are designed for teaching on the basis of scientific cognition and various theories. Compared with real teaching tools, virtual reality technology is abstract. It is a software tool closely related to the Internet that can be designed for specific subjects or specific knowledge. Virtual reality technology refers to the use of computers to generate a virtual world that can directly apply visual, auditory, and tactile sensations to participants and allow them to observe and operate interactively. Students can independently and repeatedly control according to their own needs. For business English subjects, applying the teaching method of VR technology to it is more to reflect the sense of picture and scene. Virtual reality is also confronted with technologies that exist as fakes. That is, how to synthesize input information that is consistent with the actual existence of the

observer's sensory organs, that is, how to generate the same vision, touch, smell, and so on. as the real environment.

Virtual teaching can make up for the lack of hardware facilities in colleges and universities, break the traditional teaching mode, and let the era of chalk flying everywhere is no longer. At present, the virtual teaching methods are mainly computer simulation teaching, model demonstration teaching, concept analysis teaching, interactive cooperative learning, and skill training. Virtual teaching is a more complex teaching method. We should follow the principles of authenticity, typicality, integrity, selectivity, and vividness. The virtual teaching platform adopts a modular and expandable structure. Its internal structure includes management module, virtual teaching and learning resource library module, writing communication module, online question answering module, and intelligent evaluation module. Conducting scientific training is another important function of the science museum. Compared with conventional training methods, a virtual laboratory established by using virtual reality technology. It can conduct virtual training for people, which has the characteristics of realistic environment, strong "immersive" feeling, changeable scene, strong training pertinence, safety and economy, and strong controllability. VR teaching also has certain environmental requirements. The first is the diversification of space design. The overall design of the classroom takes into account many factors, especially the humanization and technology. The space is divided into several parts, so that the needs of students can be met. This system can enhance the interaction frequency between students and teachers. In class, teachers and students can communicate through words, pictures, images, videos, and so on; students can use the software to achieve more convenient group discussion and can also connect other experts to teach the course content, so as to bring more knowledge to students. The scene of classroom teaching will also be automatically saved. The video related to the classroom can be used as a reference for teachers after class. Students can memorize the forgotten knowledge by watching the video. The recording and broadcasting system can also meet the needs of teachers recording microlessons. The recording and broadcasting classrooms of each school only need to arrange audio and video collection equipment, which is connected through the education network, and the recording and broadcasting work is completed by the education cloud. Each school or classroom dynamically shares recording and broadcasting resources, which greatly saves equipment investment and improves equipment utilization.

3.2. Education Method Combining the Computer Vision Technology and Virtual Teaching. There are three purposes of this virtual business English teaching experiment: (1) to demonstrate the classroom model of business English Teaching under VR technology. The virtual classroom provided by VR technology can greatly stimulate students' interest in business English subjects. The immersion, interactivity, and imagination brought by it have great advantages especially for oral business English. (2) Students

and teachers can master the characteristics of multimedia system through experiments and operate quickly and correctly. VR technology can bring new teaching methods. The characters and environment displayed by VR technology can follow the law of reality and can also be designed according to the idea of the operator. Therefore, more practice is needed. (3) It is convenient for students to study online anytime and anywhere. VR technology can store the picture or video or even the environmental changes in the process, which is convenient for students to extract when they need it, and constantly practice and improve. Environment modeling technology is the modeling of virtual environment; the purpose is to obtain the 3D data of the actual 3D environment, and according to the needs of the application, use the obtained 3D data to build the corresponding virtual environment model.

There are three key points in this experiment: (1) experimental control: students should be able to control the learning time, mode, and content independently in the experimental operation. Students should fully follow the usual habits and make the most real reaction. In the experiment, teachers should practice the business English teaching method with VR system repeatedly. (2) The effect of the experiment is almost the same as that of the real test. As we all know, the greatest advantage of virtual experiment is to restore the objects, scenes, effects, and results of real experiments. Therefore, in this experiment, the simulation of design test should be carried out according to the real test situation. (3) Ensure a certain amount of network fluency. The virtual experiment should be guaranteed by smooth network, so that students and teachers can successfully complete the operation content of the experiment on the equipment.

Virtual test system [15, 16] in B/S mode, this is a structural change and improved C/S structure Internet technology. In structure B/s, the presentation level, function layer and data layer are divided into independent units. Changing the original C/S structure to B/s, three-level structure can greatly reduce the pressure of customers. B/S structure is a simple client mode, which simplifies client software. Customers only need the basic configuration of the application to download specific plug-ins, which can be used as a platform to implement customer applications. All system development, maintenance, and upgrade work are carried out on the side of the server. Client browser plug-ins can be easily downloaded to the Internet, and the software does not depend on the system platform.

The main code of this virtual experiment system is VRML format file. As the second-generation language in network applications, VRML is sent in binary format. In B/S architecture system, VRML file transfer does not need high network requirements. In today's network environment, it can fully meet the rapid transmission of code files. In addition, client code files run in client analysis and require low client computer configuration. As long as the client browser with specific plug-ins can run VRML files and enter the wonderful world of virtual reality without any problem, VRML also has many modeling methods, but VRML directly through VRML planning model, some images can be used

for modeling software virtual teaching platform construction, such as CAD software Pro/3DMAX modeling and access to 3DMAX VRML2.0 interface. After providing materials and surfaces, VRML in 3DMAX and exported files are developed. In addition, in order to create scenario diagrams, proto, def, ljse, and other methods that can be used to implement modular design and structure of VRML context. Viewing, testing, and running virtual scenes [17, 18] usually requires some browser plug-ins [19–21]. 8s contact and gortvrml are widely used. The cosmo2.1 plug-in is used in this paper.

This experiment will be carried out by educational quasi-experiment. The experimental mode was as follows:

$$\begin{array}{ccc}
 O1 & X & O2 \\
 \dots\dots\dots & & \\
 O1' & & O2'
 \end{array} \tag{1}$$

Note: O1 and O2 denote the pretest and posttest of the experimental group, O1' and O2', respectively, refer to the pretest and posttest of the control group, and X is the independent variable, which indicates that the teacher uses VR technology in the experimental class; if there is no sign between O1' and O2', it means that the control class does not use VR technology, mainly according to PPT and blackboard writing teaching; the dotted line indicates that this experiment is quasiexperiment. Educational experiment can be divided into "real experiment," "quasiexperiment," and "preexperiment" according to the strength of experimental control. But in the actual teaching, there are many interference factors, which cannot be completely controlled to the same level. In the same grade, the grades in the class cannot be exactly the same. So, this experiment adopts "quasiexperiment." In other words, the nonrandom assignment experiment, taking four ordinary classes, according to the normal class mode, can ensure that the class management is not disturbed, the implementation is convenient, and the school also supports, so that the experiment can be carried out smoothly. In addition, high school students are busy with their homework. Both students and their parents, out of the "no trouble" mentality, have a high acceptance of the experiment.

The actual teaching process of this experiment [20, 22]: (1) prepare VR equipment. The teacher confirmed the network status and guided the students to operate the VR system software. Switch the video to VR video, wear VR glasses, adjust the distance from the glasses, and the adjustment is completed when the vision is clear and there is no ghost. (2) Cooperative research: students wear VR glasses for learning. The teacher puts forward the knowledge points that need to be understood in this lesson before students learn, so that students can learn with problems. Discuss with virtual characters or group discussion with classmates during study. (3) Conclusion: at the end of the class, the teacher summarizes the class and makes it convenient for students to take notes and review after class. And put forward questions to investigate the students' learning effect and the mastery of knowledge points. (4) Activities in class:

About 10 minutes are set aside for each class to give students the opportunity to use VR equipment freely. That is, students can have business English virtual scene dialogue, business English virtual animation, and business English video review in free time. The application of VR technology in business English teaching greatly facilitates classroom teaching and review after class.

4. Results Analysis

First, through the questionnaire method, the attitude of the three groups of students, teachers and parents on the application of VR technology to business English teaching was investigated. It can be seen from Figure 1 that 70% of the students are agreeable, 20% of the students who do not care about attitudes, and 10% of the students who disagree. Parents with an agreeable attitude account for 50% of the parent group, parents with an indifferent attitude account for 30% of the parent group, and parents with a disapproval attitude account for 20% of the parent group. Therefore, as a whole, the student group has more expectations for the application of the combination of computer vision technology and virtual reality technology to business English teaching, followed by the teacher group and the parent group last. The student group is looking for more advanced teaching methods, the teacher group is constantly introducing the old and the new, while the parent group is pursuing more traditional teaching methods.

Among business English subjects, business English courses are abstract and boring, and lack simulation of classroom scenes. However, students have an active classroom atmosphere and can easily master knowledge points. Therefore, the business English classroom combined with virtual reality software can greatly improve the interest of learning. Due to the introduction of the education method combining the computer vision technology and the virtual reality technology, the originally monotonous classroom becomes lively and can maximize Arouse students' thinking, mobilize students' enthusiasm for learning, improve students' stereotyped impressions of classroom teaching, make students the subject of learning, instead of passively accepting knowledge taught by teachers, and improve students' enthusiasm for participating in teaching activities. In such a learning environment. The comprehensive quality of students can also be greatly improved.

It is found that after the combination of virtual reality software in the experimental class, the efficiency of students' learning business English knowledge has been significantly improved, and the efficiency of business English classroom has also been improved, especially involving some abstract knowledge concepts in business English. The students in the experimental class took three hours to learn, while the control class took five hours Class inspection is also slightly better. As can be seen from the data in the figure, the effect of VR technology applied to business English teaching is greater than that of traditional business English teaching. With the help of virtual teaching situation, students are more likely to accept the Chinese classroom teaching content presented by virtual reality. Compared with the teaching of

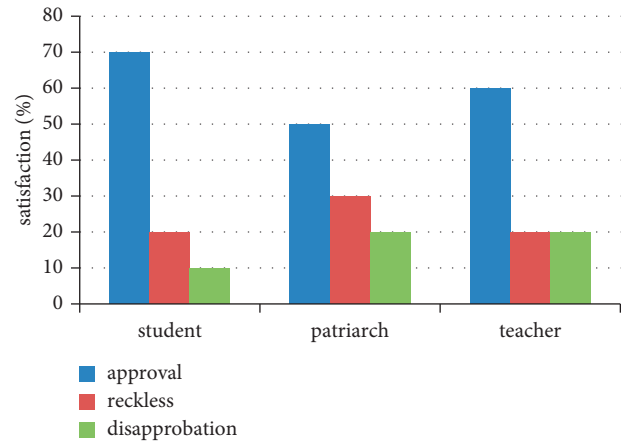


FIGURE 1: The attitude of students, teachers and parents on the application of VR technology in business English teaching.

virtual reality technology, the traditional teaching also has its advantages: the traditional teaching method shows students more detailed business English content, which plays a great role in cultivating students' reading ability and writing ability, so it plays a more basic role. Generally speaking, virtual scene teaching and traditional teaching need to be combined with each other to give full play to their own advantages in teaching to achieve the best teaching effect. Basically, all students welcome the use of virtual reality technology as an auxiliary teaching tool in business English class. Although the control class does not use virtual reality technology, it is obvious that the control class is more enthusiastic about the introduction of VR technology, which further illustrates the beneficial role of virtual reality technology in improving students' interest in business English learning. Today's classroom teachers are equipped with multimedia equipment, but the vast majority of teachers still choose to use PPT and other presentations for classroom teaching. The presentation can help students understand knowledge by displaying animation and pictures. However, both animations and pictures are plane images, which cannot present things in a three-dimensional and real way. Scene teaching resources in virtual software can show oral dialogue with plots for students to imitate and learn. Virtual reality technology can fully mobilize all kinds of senses of students and stimulate their hidden advantages, which is conducive to students' all-round development. As shown in Figure 2.

Investigating the experimental class's satisfaction with the combination of computer vision technology and virtual reality technology and business English teaching can be seen from the data in Figure 3. 20% of the students are satisfied with the application of this technology in the classroom, 60% of the students are satisfied with the application of VR technology in the classroom, 10% of the students feel generally about the application of emerging technology in the classroom, and 6% of the students are satisfied with the application of VR technology in the classroom Dissatisfied, 4% are dissatisfied with the application of this class. Business English classes combined with virtual simulation software can help students build business English knowledge and

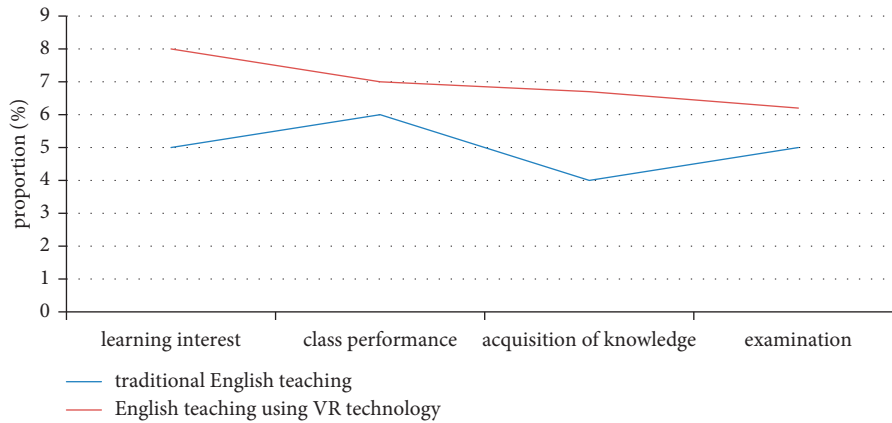


FIGURE 2: The application of VR technology in business English teaching is compared in many aspects.

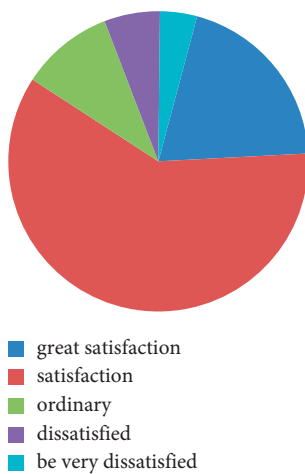


FIGURE 3: The experimental class is satisfied with the application of VR technology education methods to business English teaching.

reduce cognitive burden. Virtual simulation technology can help students deepen their understanding of knowledge points, reduce the difficulty of learning business English, enhance the memory of knowledge points, and significantly improve the efficiency of business English classroom teaching. When students use virtual reality technology in their studies, they are not only rote To learn hard by memorizing but to experience the learning content personally and participate in the teaching environment. In the teaching process, students can think of their previous experiences and establish a deeper connection with the knowledge they have learned before. Education combined with virtual reality is consistent with the constructivist learning theory, that is, “learning is an experience of a real situation.” Virtual reality provides such a possibility for students to see, use ears, listen, and do it themselves., And then activate the brain to explore independently, from the passive “I want to learn” to the active “I want to learn.”

With the help of the questionnaire survey method, the proportion of the education method combining the computer vision technology and virtual reality technology applied to the classroom teaching method of business English teaching was investigated and analyzed. It can be clearly

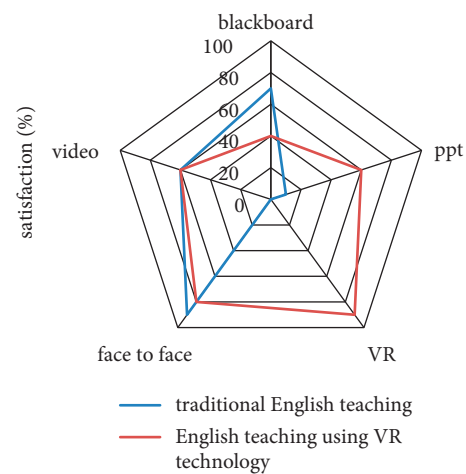


FIGURE 4: The proportion of VR teaching methods applied to business English teaching.

observed from the table in Figure 4 that the application of the combination of computer vision technology and virtual reality technology to the business English classroom after business English teaching is more flexible and more flexible than the original focus on blackboard and face-to-face teaching. For virtual sense and network software applications, as we all know, in the high school stage, the learning tasks are arduous, coupled with the huge pressure of the college entrance examination, students urgently need a certain new classroom teaching method to give spiritual comfort. Combining the author’s own experience and the students’ class situation observed during the short internship, few people actively raise their hands to speak, and most of them respond with the crowd. In the experimental class, they were exposed to something new to them-VR equipment, and the classroom atmosphere became active. During the group discussion, the students not only discussed the tasks assigned by the teacher, but also whispered the fresh experience brought by the VR glasses.

Finally, a sample interview was conducted with the students in the experimental class and the control class. The summary of the interview content is shown in Table 1. Analyzing the content of the interviews, we can find that

TABLE 1: Record the content of the interview between the experimental class and the control class.

Teacher questions	The experimental class answers	The control class answers
1. Are you interested in business English class?		
2. Do you have to spend a long time to finish your business English homework after class?	Between two and three hours	Three hours, sometimes longer
3. How long does it take you to review your business English after class?	About an hour	About two hours
4. Which one is more important to you?	Book	Teaching aids
5. Do you like the current form of business English classroom teaching?	Yes, the class is interesting, the simulation dialogue is real	OK, it's no different from other subjects
6. What do you think is the cause of your inattention in class?	Knowledge is difficult, the teacher is too blunt	Knowledge is boring and boring, and cannot refresh

both the experimental class and the control class have difficulties in learning business English and spend a lot of time on the processing of homework. However, the students in the experimental class can use virtual software to review efficiently after class. The students in the control class can only learn by rote according to the teaching assistant. Obviously, the effect of the latter school is not good. In order to explore whether the combination of computer vision technology and virtual reality technology can help students improve the efficiency of homework after class, it can be intuitively seen from the statistics in the table that the time for students in the experimental class to complete homework has been significantly shortened. Homework after class is to help students better digest knowledge. When students have a thorough understanding of class knowledge, the time required to complete homework will naturally decrease. After applying the education method that combines the computer vision technology and virtual reality technology, it provides students with a fun, multiperceptual learning environment, vivid and interesting learning resources, and a more realistic business English classroom structure, which can stimulate learning interest and improve learning efficiency, helps reduce cognitive burden. Through the analysis of the two-class questionnaire and interviews, we can know that VR technology has a positive impact on business English classroom teaching.

5. Conclusions

The rapid development from the emergence of the computer vision technology to the present is enough to see how much people attach to this technology. The combination of computer vision technology and virtual reality technology, as a new type of educational technology means, has gradually penetrated into various fields of educational technology. The application of this technical education method in business English teaching has excellent prospects for development. In this paper, through literature research method, questionnaire method, experimental research method and interview method, combined with the characteristics of business English subject teaching, a virtual teaching experiment is set up. From course teaching, classroom atmosphere, student interest, and test evaluation, the VR technology is analyzed through experiments. Connecting VR technology and business English teaching, it is concluded that this application creates intuitive and visual teaching content and

teaching methods, and increases the interaction and participation between teachers, and students., Turning the otherwise boring and serious business English classroom into a game-based teaching method that stimulates students' interest, and at the same time, promotes the conclusion of equalization of business English teaching resources. Based on the advantages that it brings, in the experiment, we also discovered the problems that need to be paid attention to in the actual business English teaching in the education method combining the computer vision technology and VR technology. First of all, teachers and students should not one-sidedly pursue novel forms and abandon traditional knowledge points. The scene-based teaching created by this technology only provides an advanced teaching tool, and the final knowledge learning still needs students to implement it themselves. Second, new business English teaching methods have brought new challenges to business English teachers. In addition to focusing on teaching results, they must learn relevant technical knowledge and monitor students' learning in real time. However, due to the limitations of time and technology, we have not conducted more in-depth research on the combination of computer vision technology and virtual teaching, and we will carry out further research and discussion in the follow-up.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflicts of Interest

The author declares no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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