Discussion on the Course of Cultural Creative Catering Space design in Higher Vocational Colleges Based on VR technology

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Abstract. The existing teaching resources in higher vocational schools can no longer meet the needs of students. Several opinions of the Ministry of Education on comprehensively improving the quality of higher vocational education point out that it is necessary to make full use of modern information technology to develop virtual factories, virtual experiments, and combine VR technology with vocational education to meet the needs of education and the times. Higher vocational colleges use the emerging and mature VR virtual technology for the classroom teaching of "Interior Design of Catering Space".

Keywords: Vocational Colleges, Cultural Creativity, Catering Space Design, Analysis

1. Introduction

With the rapid development of society, various scientific technologies have also been widely used, and VR is one of them. In recent years, due to the rapid development of VR technology, it has been applied to VR in many fields. The application of VR technology in the art design major of higher vocational education can organically combine VR technology with the curriculum theory system of art design, make the course teaching more efficient, and also help students better integrate the theoretical knowledge and actuality. It can also effectively help students break through the limitation of poor space perception and the limitation of venue, and solve the specific problems currently restricted in teaching activities, thereby improving the teaching effect.

2. Course background of cultural and creative dining space design in higher vocational colleges based on VR technology

With the rapid development of the design industry, the training goals of China's vocational education art design talents are also continuously improved [1]. In terms of teaching, we not only focus on cultivating students' skills in design thinking, innovation and development, but also pay more attention to enabling students to combine what they have learned with actual design. The catering space design course is an important part of interior design in environmental art design. It has strong characteristics of applicability and practicality. The teaching content of catering space design courses is complicated, involving a large amount of knowledge, and it is difficult for students to learn. Moreover, students can only access basic knowledge in the classroom. To combine knowledge with practice, students also
need to accumulate experience in practice. A new study by online learning platform Brainly found that nearly 73% of students surveyed consider augmented reality and VR technology to be valuable for their learning.

With the improvement of people's living standards in the contemporary world, more and more customers come to the restaurant to eat, not only to fill the stomach, but more importantly to focus on spiritual and cultural enjoyment. Creative dining spaces have emerged as the times require, these restaurants are mainly based on specific themes and novel interior design to attract customers. It has attractive creativity. Under the background that traditional monotonous restaurants bring visual fatigue to people, the theme restaurant sexual environment can quickly attract the public's attention, contrast with traditional restaurants, and create a strong appeal to customers. Higher vocational schools need to use VR technology to combine cultural and creative dining space design courses, improve students' ability to connect knowledge theory and practice, and enable students to better adapt to social needs [2].

The school's cultural and creative restaurant space design is mainly based on people's definition of the restaurant, in addition to dining and eating, there are other needs, such as shown in Figure 1. The restaurant is based on the theme of openness and simplicity. In the university restaurant, students can not only eat, but also talk and exchange in the restaurant. The restaurant is divided into different spaces according to the needs of students. The school dining room has a large number of dining windows. In the overall space planning, the group dining mode shown in Figure 1 is adopted. However, it involves the needs of student communication and the environment. Based on the needs of students, the space of the team dining mode shown in Figure 1 is designed to facilitate students' communication here. The column of planning space of the collective dining mode shown in Figure 1 is written with the English letters Enjoy. This word perfectly reflects the characteristics of mutual symbiosis, openness and tolerance. The design of the restaurant adopts a simple design with gray and white. Make the entire restaurant space more concise and generous. In the space design of Figure 1, the dining area is planned near the window, and the beautiful scenery that people can enjoy through the window. The arc-shaped line design makes the whole space look soft and natural.

![Figure 1. Student dining space planning](image)

3. The significance of VR technology applied to the curriculum of cultural and creative dining space design in higher vocational colleges

Applying VR technology to the curriculum of cultural and creative dining space design in higher vocational colleges can greatly increase students' learning interest. As an observer, the student deepens the understanding of knowledge through observation of the teacher's explanations, and as a participant, the student combines his own understanding with practical operations to better improve the learning.
effect. For example, in Figure 2, students' spatial perception, spatial thinking, spatial design, and knowledge understanding have been significantly improved after applying VR technology. Because the course of cultural and creative dining space design in higher vocational colleges is relatively abstract, the knowledge explained by the teacher will make it difficult for students to link to the actual situation. Even if students learn the knowledge in the classroom, they do not know how to apply it [3]. What's more important is that there is a big difference between the simulation of design work in daily school and the actual project task book in real society. There is great difficulty for students to realize the connection between school teaching and social reality. With the help of VR technology, the real design and construction process can be displayed in front of students, deepen the students' memory, and improve teaching efficiency.

![Figure 2](image_url)

**Figure 2.** Changes in student learning efficiency before and after the application of VR technology in space design courses

4. Courses on Cultural and Creative Dining Space Design in Vocational Colleges Based on VR Technology

4.1 Use VR technology to form effective loop patterns

Combined with Cooper's experiential learning cycle mode, as shown in Figure 3, four learning scenarios are formed on the basis of absorption-related learning theories: experience scenarios, reflection scenarios, concept scenarios and verification scenarios. The emphasis in the context of the experience is on the actual experience, which can be simulated. The model of cultural and creative dining space design in higher vocational colleges was established using three-dimensional animation, and the assembly and disassembly of various functional areas were found to find the most suitable dining space design model [4]. Help students to think in the context of reflection, to reflect on the relevant parameters of the three-dimensional model established in the experience, to reflect on their own actual situation, and to be able to integrate the learned knowledge with the actual situation and obtain corresponding perceptions and reflections. In the context of concept formation, it is necessary to elevate the three-dimensional design process felt into rational knowledge, and then use the intuitive concept graphics to obtain abstract concepts, to find a balance between knowledge and reality, to help students better understand the design Points of knowledge. Validated scenarios allow students to acquire concepts in a new scenario test, use their knowledge to make decisions and solve problems, and test their knowledge and skills, such as the use of color matching.
Figure 3. Composition of VR based experiential learning environment

4.2 VR technology can help students develop spatial thinking ability
The design of catering space refers to the interior space design of catering places, which is mainly aimed at the functional space of catering, including functional areas and facilities. Its design is diverse and complex. For students of cultural creative catering space design courses, Cultivating a sense of space, a sense of distance, and the ability to transform planes and facades, spatial imagination, and the ability to perceive the level are the most difficult points for learning, and also the bottlenecks that teachers need to break through in teaching, because these abstract design abilities knowledge is difficult to apply. Specific learning to get promoted [5]. In the early learning process, if students have insufficient imagination because of spatial cognition, they cannot start in design. The advantage of VR is the real simulation of the real environment, allowing users to experience real feelings. It instantly visualizes many abstract concepts for students to easily understand, which makes the previous difficulties more intuitive. Students can use VR technology to enhance the perception of space, so that the conversion between space and plane is easy to solve, and it also provides unlimited possibilities for students' design thinking and design abilities.

4.3 VR technology can improve students’ space design capabilities
The experimental psychologist has verified through a large number of practices that 83% of people acquire knowledge from vision, 11% from hearing, 3.5% from smell, 1.5% from touch, and 1% from taste. As shown in Figure 4, the main way is by means of vision. VR technology has great advantages in three-dimensional space effects. It can accurately display spatial relationships and promote the construction of students' spatial concepts. As the catering space has certain restrictions, the physical form of the enclosed space can be varied and varied, and the perception, presence, interaction and autonomy of virtual reality technology can more intuitively show the real effect of the design. The design of dining space has been improved.
Figure 4. Composition of the main sources of knowledge gained by people

Using VR technology can process 3D models. With the help of VR equipment, you can enter the design space from outside the design space, and truly feel the results you have designed. Using VR roaming technology, designers can move in multiple angles and directions within the scenes they have designed, and more fully observe the catering space they have designed. With the current update of VR technology software, designers can modify their designs on the spot in a virtual space to make their designs more complete. Therefore, the application of VR virtual reality technology can effectively improve the students' space design ability, allowing them to translate the design ideas into real results.

4.4VR technology enhances students' ability to deepen construction drawings, scheme design and performance

With VR technology, students can participate in the whole process and realize project-based teaching, which greatly promotes the improvement of students' comprehensive ability. For example, in the project-based teaching process of the studio of the Department of art design of the Anhui Business College, a teaching method on the design of the space of cultural and creative restaurants was carried out through VR teaching methods combined with actual project practice, and several universities in Anhui were completed. Cultural restaurant and theme restaurant design project in society. In the teaching process, from the functional design to the space design, lighting design, furnishing design to construction drawing design, the whole process of participating in the cooperation to complete the project design content. The use of VR virtual reality technology enables students to use the visual aesthetics of pictures that are only in the plane, and transforms them into the three-dimensional internal space, and can intuitively experience the overall experience of shape, color, quality, and lighting in space design. In this way, it is possible to test and avoid the shortcomings of various types of design in the interior space, such as the shape ratio, the intensity of the light and darkness, and the lack of design after the implementation of the plan drawings and reality [6]. In the design phase of the catering space construction drawing, the use of VR technology can show students the difficult construction process, material structure, and intuitive and comprehensive display in the theoretical explanation, which solves the problem of students' inability to watch the construction process and construction technology at the construction site on campus.
4.5 On the Course of Cultural and Creative Dining Space Design in Vocational Colleges Based on VR Technology

There are still some problems in the application of VR technology in the curriculum of cultural and creative dining space design in higher vocational colleges. For example, the lack of an excellent VR technology platform, the establishment of a virtual laboratory in a university is not synchronized, and the lack of a VR technology education resource library related to the curriculum. Therefore, the current application of VR technology in the curriculum of cultural and creative dining space design in higher vocational colleges is still in the development stage, allowing students to realize their own design and understanding with simple equipment [7]. With the advancement of future technology, VR technology breaks through related barriers and is more widely integrated into the entire curriculum system of creative dining space design.

5. Conclusion

VR technology has a positive impetus for cultural and creative dining space design courses in higher vocational colleges. In the rapid development of information technology and terminal display technology, the increasingly mature information society with hardware technology, through the organic combination of VR technology and courses. Help VR technology to better promote the development of education. In this class, students will be more centered, so that students can fully learn art design concepts and master design methods. Effectively improved the quality of cultural creative dining space design courses in higher vocational colleges.

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