On the Application of Virtual Reality Technology in Public Art Teaching in Colleges and Universities

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Abstract. As an important part of quality education, public art education in colleges and universities plays an irreplaceable role in promoting cultural communication and cultivating students' moral quality and aesthetic taste. Subject to the influence of subjective and objective factors, there are some problems in the actual teaching process of public art education in colleges and universities, such as monotonous teaching content and lagging teaching methods. Applying virtual reality technology to public art teaching in colleges and universities, perfecting virtual reality technology teaching equipment and clarifying the teaching goal of "educating people with aesthetics"; Construct interactive teaching activities of subject, object and environment; The establishment of dynamic, synchronous, timely and effective teaching evaluation, so as to realize the positive transformation of public art teaching in colleges and universities from separation to interaction, from plane to three-dimensional, is conducive to improving the teaching effect and quality of public art education in colleges and universities, and shaping the new form of public art teaching in colleges and universities.

Keywords: Virtual reality technology · Public art education in colleges and universities · Information based teaching

1 Introduction

As China's comprehensive strength grows, its position in the international arena continues to improve, and its leadership role in world affairs continues to emerge and grow. To a certain extent, this has put forward higher requirements for the leadership of our nationals, especially the young generation, whose leadership level plays a crucial role in the future competitiveness of China in the international arena. As an important place for talent cultivation, many student organizations within colleges and universities provide opportunities for college students to experience and become student cadres who bridge and link teachers and students. The group of student cadres plays the role of "leader" in the process of self-management, self-restraint and self-service of college students. Therefore, based on the five power model of leadership, it is crucial to strengthen the development and cultivation of leadership of student cadres in colleges and universities

based on the power of inspiration, foresight, influence, decisiveness and control, and guide them to gradually develop into high-quality talents with diversified knowledge reserves, high sense of responsibility and strong execution ability.

2 Analysis on the Present Situation of Public Art Teaching in Colleges and Universities

2.1 Teaching Content is Monotonous, Difficult to Trigger Emotional Resonance

Good art teaching should include three levels of knowledge, technology and creativity, and arouse students' emotional resonance. We can see that in the selection of teaching content, public art education in colleges and universities focuses on the introduction and explanation of existing theoretical knowledge and the characteristics of works, and lacks the guidance of students' art skills and creativity. The single teaching content is easy to make students' learning of art knowledge become superficial, and it is difficult to arouse students' pursuit of beauty (Table 1).

2.2 The Teaching Method Lags Behind and the Interaction Between Subjects is Insufficient

The teaching method is the key to complete the teaching task, realize the teaching goal and improve the teaching quality. The traditional teaching methods mainly include teaching method, discussion method, visual demonstration method, practice method, guidance method, visiting method and so on. With the continuous development of teaching conditions and educational theories, some new teaching methods are coming into the classroom teaching of colleges and universities, such as multimedia teaching method based on information technology, metacognitive teaching method based on metacognitive theory and so on. However, for a long time, most of the traditional teaching methods are used in the public art teaching in colleges and universities, and there is no attempt of new teaching methods. Through the interview with the teachers of four public art education courses in a university in Nanjing, the author found that they tend to choose traditional teaching method and demonstration method in the choice of teaching methods, while they choose few new teaching methods. However, art is an experience, to explore, cooperate, create discipline, fine arts curriculum aims to encourage students to play to the personality and help them to set up the correct world outlook, values and outlook on life [1].

2.3 Lack of Teaching Resources, Classroom Practice Less

The complexity of public art education in colleges and universities determines the richness of its teaching resources. Therefore, the teaching of public art education in colleges and universities should go out of the limitation of the classroom and into the nature. At the same time, we should make full use of the teaching resources in museums, art galleries and other places, and constantly expand new teaching space. Only in this way can we effectively combine the teaching resources in and out of class, so that students can

Table 1. Public Art Education courses in a university in Nanjing [Owner-draw]

course title	content of courses
Chinese painting and calligraphy	The development history of Chinese painting and the introduction of representative works in different periods, the theme of Chinese painting, the artistic characteristics of different themes and creative techniques, and the copying methods of Chinese painting
Chinese calligraphy and engraved	The basic knowledge of calligraphy ands engraving, the introduction of calligraphy and engraving in different periods and the introduction of their works
Animation advertising art appreciation	The original knowledge of advertising creativity, the media of advertising communication, and the problems existing in advertising creativity
Appreciation of interior decoration	Interior decoration principle and elements, interior decoration picture appreciation
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realize a deep understanding and understanding of art in practice. However, in the reality of public art education, in addition to basing on the traditional classroom teaching space and following the traditional classroom teaching mode, it is difficult to break through the limitations of the classroom and realize the "going out" of public art teaching in colleges and universities. On the one hand, the "going out" of public art teaching in colleges and universities is restricted by the school management system and financial and material resources. On the other hand, public art education courses in colleges and universities usually appear in the form of elective courses, with a large number of students, and their safety is difficult to guarantee. The lack of art practice affects students' aesthetic scope, limits students' thinking perspective, and is not conducive to students' emotional development and the formation of innovative thinking. [2].

3   Application Value of Virtual Reality Technology in Public Art Teaching in Colleges and Universities

3.1   Immersive: Contextualized Teaching Environment

The biggest advantage of virtual reality technology applied to teaching is immersive. On the one hand, virtual reality technology can through dynamic environment modeling, real-time 3 d graphics generation and stereo display means to realize the construction of the museum, art museum and other scenes to let the students to jump out the limitations of time and space, to the world of three-dimensional, abstract, immersive experience the charm of art and value, real attain "far see mountain, near water listen to audio. In recent years, with the rapid popularization of digitalization and the call of national policies, a number of art museums across the country have started the exploration of virtual reality online exhibitions. On the other hand, public art education in colleges and universities is a non-professional art education, and most of the students it faces have no art foundation. For them, much of art is difficult to understand. In the face of such a situation, it is difficult for teachers to find suitable materials to show in the process of preparing lessons.

3.2   Communication and Interaction: Touch Teaching Content

The interactivity of virtual reality technology means that the objects participating in activities in the VR system communicate with other objects or objects in the system, resulting in various interactions. Interactivity is the soul of virtual reality technology. According to whether users consciously and actively produce interaction behaviors, the interaction of virtual reality technology can be divided into active interaction and passive interaction. According to whether there is obvious interaction, it can be divided into explicit interaction and implicit interaction. [3] The integration of virtual reality technology into public art teaching in colleges and universities can give students immersive experience, but the experience without interaction is incomplete.

Virtual reality technology can fully use a variety of interactive means to realize the full interaction between teachers and students, students and teaching content. Firstly, the application of virtual reality technology in public art education in colleges and universities can promote the full interaction between teachers and students.

3.3   Proactive: High Quality Teaching Results

Stimulating students' learning motivation is the premise of effective teaching. Motivation stimulation is not only a means to achieve high quality teaching effect, but also one of the goals that teaching should achieve. Professor Hu Weiping believes that "motivation stimulation refers to the use of incentives to change the formed needs from the potential state to the active state and form the enthusiasm for the target activity under the creation of a certain situation." Students' learning motivation is influenced not only by internal factors such as their own needs and personalities, but also by external factors such as their teaching environment and teachers' teaching methods.

Different from the traditional teaching mode, the new teaching based on virtual reality technology can effectively combine different learning motives, improve students' learning initiative and improve the teaching effect through fine arrangement, interesting presentation means and fair and just ways.

4 The Application Strategy of Virtual Reality Technology in Public Art Teaching in Colleges and Universities

4.1 Perfect Teaching Equipment and Clear Teaching Objectives

The integration of virtual reality technology into public art teaching in colleges and universities is helpful to improve its teaching quality, but to make it present and applied in public art teaching in colleges and universities, it needs to pass the corresponding equipment and facilities. Virtual reality technology equipment mainly includes output equipment with head display as the core and various forms of input equipment. Light and clear head display devices can put students in a three-dimensional virtual world, and a variety of new forms of input devices are the key to the interaction between students and teaching content. Therefore, choosing appropriate virtual reality technology teaching equipment is the premise of constructing immersive art teaching.

4.2 The Interactive Teaching Activities of Subject, Object and Environment

The teaching based on virtual reality technology is established on the basis of the body and mind of teachers and students and the integration of body and mind. In essence, it is a teaching activity with the interaction mechanism of subject and object and environment. [4] In this process, teachers and students are the subjects of teaching activities, teaching content is the object of teaching activities, and teachers and students are inter-subject relations of mutual understanding mediated by teaching content and teaching environment.

In the immersive teaching environment created by virtual reality technology, teachers should be skilled in using the relevant equipment of virtual reality technology and innovate teaching methods and teaching resources based on this, so as to track the learning effect of students in real time and give timely guidance and evaluation in the teaching process. Students should take the initiative to learn art knowledge and appreciate art works on the basis of skillful use of virtual reality technology equipment. The teaching activities are carried out in a virtual environment created with the help of virtual reality technology.

4.3 Dynamic, Synchronous, Timely and Effective Teaching Evaluation

The application of virtual reality technology to classroom teaching is still in the experimental stage. There are still some problems such as students' lack of proficiency in the use of virtual reality technology equipment and the lack of convenient access to teaching resources. Only by dynamically understanding learners' learning status and specific

problems in the virtual environment, and making timely and effective teaching evaluation on learners' learning status and effects, can teachers provide accurate and effective teaching support. Therefore, in the classroom teaching process, teachers should be good at capturing the movement of students, expression changes, good at finding students in the process of learning doubts and timely adjust the pace of teaching. Virtual reality technology can record and analyze the learning state of learners and generate certain data. Teachers should assign corresponding assessment homework to students according to the relevant data after class to test the teaching effect and the degree of engagement and participation of learners.

5   Conclusions

In the era of artificial intelligence, emerging technologies represented by virtual reality technology are reshaping the form of education, and intelligence + education has become the new direction of future education development. The application of virtual reality technology to public art education in colleges and universities will undoubtedly be a profound practical reform of quality education in colleges and universities. However, the development process of things is always accompanied by twists in the progress. The application of virtual reality technology in public art teaching in colleges and universities is still in the preliminary stage of exploration, and there are many problems. For example, the investment and maintenance cost of virtual reality technology equipment are too high, and the application degree and use ability of teachers and students are poor. How to better integrate virtual reality technology into public art teaching in colleges and universities, create a new teaching form and promote it to other subjects' teaching practice remains to be further studied.

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