

Feasibility Analysis of VR Virtual Technology Application in Art Design Teaching

Sun Li

College of Art, Liaoning University of Communication, Shenyang 110136, China

sl_515@163.com

Abstract. VR virtual reality technology is now used in various fields, in recent years, the technology is also gradually applied to teaching. VR virtual technology can build a simulation learning environment, so that students have a comprehensive and systematic understanding of the courses of art design, and cultivate students' creative ability and imagination. This paper analyzes the status quo of VR virtual reality education technology and the advantages of VR technology in teaching, puts forward the teaching method of integrating VR virtual reality technology into classroom teaching, and discusses the feasibility of VR virtual reality technology, so that the technology can be widely used in the teaching of art design major.

Keywords: VR Virtual Technology; Art Design Teaching; Teaching Application; Feasibility.

1. Introduction

Most of the courses of art design major are practical courses, so it is necessary to explore new teaching methods to cooperate. In classroom teaching, students should be guided to think actively, understand and master relevant professional knowledge, and apply the professional knowledge to practical design, so that students can change from passive to active learning and improve their interest in professional learning. With the development needs of the education industry and the development trend of VR virtual industry, it is necessary to further adjust the teaching method of art design major, change the traditional teaching method, expand the teaching content, and form the unique teaching characteristics of art design major of our university, so as to better adapt to the future higher education environment.

2. Analysis of the Status Quo of VR Virtual Reality Education Technology

With the continuous emphasis on the field of VR virtual technology in China, the form of teaching course education of art design major in China is also constantly changing. A single multimedia teaching can no longer further meet the current classroom teaching. It is necessary to update the teaching method of art design major so that students can integrate into the classroom environment and quickly master the course knowledge. However, the courses of independent colleges still continue the traditional classroom mode, and the teaching system of art design majors needs to be improved. New teaching methods and changes in teaching methods need to be further studied for each course, so as to effectively improve the classroom teaching quality of art design majors. With the continuous development of electronic products, the price of VR hardware equipment has been gradually reduced, but the price is still relatively high, and can not be fully popularized in colleges and universities. The main reason is that the application of VR hardware equipment in colleges and universities is too little, and no trend has been formed, which makes the promotion of VR hardware equipment not extensive, and the proportion of application population is also small. This requires colleges and universities to pay attention to this aspect, properly introduce some devices, and gradually promote the use of VR hardware equipment in the future to make VR hardware equipment as common and widely used as mobile phones.

Colleges and universities and relevant education departments are far from enough cognizant of VR virtual reality technology, and do not realize that the application of high-tech technology can update teaching methods and improve teaching efficiency. Nor do they realize that VR software needs continuous innovation, especially in the development of virtual education technology, some teachers

and company professionals need to jointly develop VR virtual reality software suitable for colleges and universities.

3. Second, The Advantages of VR Technology in Teaching

With the development of VR virtual reality technology, the technology will be more and more popular, gradually accepted and recognized by most people, science and technology leads the development of The Times, all walks of life are constantly updating technical methods, our education industry should also use VR virtual reality technology to arm our professional courses, active classroom atmosphere. VR virtual reality technology has the following advantages in the teaching of art design majors.

1. Construct virtual simulation teaching environment for teachers. The advantages of VR in the teaching of art and design major are mainly reflected in the fact that it has a certain sense of reality. The simulation environment supported by VR virtual reality technology is realized by computer and electronic technology. This simulation environment looks more real and simulates the real environment efficiently, which is conducive to teachers' classroom interaction and students' personal experience in the virtual simulation teaching environment. And timely feedback of problems and findings to teachers, really promote the enthusiasm of the class.

2. Cultivate students' independent learning ability. In the traditional teaching mode in the past, students are guided by teachers to learn knowledge, relatively passive, lack of subjective learning awareness, however, when VR virtual reality technology is introduced into the teaching, it will break the previous single rigid teaching method, form a multi-faceted communication and interaction between teachers and students, and also show another advantage of this technology is the sense of interaction. Let students independently to experience, to express what they see and think, to create an independent learning environment.

3. Students' 3D three-dimensional works display. Another role of VR virtual reality technology in the teaching of art design majors is to display students' works in class. In the past, what we see are two-dimensional pictures, not vivid enough, lack of three-dimensional sense. The emergence of VR virtual reality technology just makes up for this gap. This technology can effectively promote students' learning enthusiasm. Students show their works to teachers in virtual three-dimensional form, so that teachers can have a more comprehensive understanding of the content conveyed by students' works and timely raise the problems existing in students' works. Other students can also learn from the highlights of the works, and at the same time, overcome the common problems to improve the works.

4. Feasibility Application of VR Technology in Art Design Major

1. Feasibility of VR hardware equipment

VR hardware equipment is more and more mature, more and more types, the price is slightly different, for professional teaching use, you can use relatively specialized VR hardware equipment, although the price is a little high, but the mass purchase of equipment, the price will be reduced. At the same time, the school needs to apply for some funds from the state for the purchase of VR hardware equipment and later maintenance costs, so that the state can support the application of science and technology in the education industry and reduce the shortage of school teaching funds. This requires the school to provide the relevant departments with strong data on VR teaching to support, and improve the relevant departments' cognition of the importance of VR hardware equipment in teaching application. According to the form of VR hardware, VR headsets are divided into: mobile headsets, external connector wearables and integrated headsets. The mobile headset is also called the VR glasses box, which can be viewed by mobile phones. The glasses box is cheap; The external connector wearing device is the PC headset, its VR product experience is good, but it should be used together with the computer or the host; One headset has an independent CPU, input

and output display function, completely get rid of external devices, but the problem of VR all-in-one machine is that the cost and technical threshold are relatively high. Compared with the mobile end and the external connector wearing VR, VR all-in-one is not subject to space constraints and external influences, but from the price perspective, the more feasible at this stage is the VR glasses box, the price is low, can meet the current teaching requirements. The necessary hardware of VR teaching method includes: to provide students with VR glasses box, to provide teachers with computers and students VR glasses box controller to ensure the experience effect.

2. Feasibility of VR courseware

With the development of society and the continuous update of science and technology, the original PPT multimedia courseware has also played a corresponding role in professional teaching, but there are still many shortcomings. This traditional teaching form will gradually be eliminated, replaced by the emerging VR courseware form, which takes VR virtual reality education technology as the platform. In the future, the courseware will be more systematic and accurate. Because courseware should not be static, the future courseware should be more three-dimensional, promote teacher-student communication, and effectively enhance students' sense of experience. VR courseware can get rid of the plane constraint, create a large space simulation environment, and display course knowledge comprehensively and systematically. Especially for some indoor space environment of buildings, if you just browse a few renderings, you can't master the whole picture of the indoor space, which requires the participation of VR technology, so that students can observe and analyze from all angles of the indoor space, and have a comprehensive grasp of the overall indoor space. At the same time, VR courseware will also promote the interaction of those who need to understand and experience the knowledge, is the student's personal experience of the knowledge, and is no longer passively infused with knowledge, only in this way, the student's knowledge can be firm, can be understood and mastered, blindly instilling can only be the student's learning to produce reverse psychology. In the process of VR courseware demonstration, students can put forward their own understanding of the course content on the VR courseware, so that teachers can understand the situation of students' mastery of knowledge at the first time, and improve some content in the future VR courseware to form a positive interaction between teachers and students. The advantage of VR courseware is that it can allow more people to enter the course at the same time.

3. Feasibility of VR works display

VR virtual technology should not only be applied in teaching so that students can get a sense of experience, but also display the results of students' VR works to enhance students' confidence in learning. Students will submit their VR works to the teacher, the teacher will upload the VR works to the server, and the teacher will display the VR works to all students in the way of virtual reality through external control of the server. In the early stage of VR works display, schools should pay more attention to VR virtual reality education technology and make corresponding preparations, such as the theme, scale and time of the display. In addition, they should purchase some high-quality VR equipment to display VR works, propose multiple display theme schemes, select the most feasible ones to highlight the creativity and imagination of the display, and ensure the display effect. The use of VR virtual reality technology display, so that more students have an interest in this technology, and promote the development of art design teaching results in our school.

5. The Prospect of VR Technology in Art and Design Major

VR virtual reality technology will display its more powerful role in time, space and other aspects in the future, breaking through the restrictions of traditional art design professional classroom education. It is necessary to carry out a detailed and comprehensive integration of professional teaching objectives and teaching methods. With the continuous development of VR virtual reality technology, the technology is bound to be popularized in the education industry in the future. The teaching methods of art design majors in the future will subvert the tradition, present the overall picture of the course in a more open and modern way, and enhance the information content and

interactivity of course knowledge. VR virtual reality technology still needs to be constantly updated, whether it is VR hardware equipment, or VR software development, it is necessary to establish a real and infectious professional education and teaching space environment, so that students can further participate in VR virtual reality teaching activities, so that students have a systematic understanding of each course knowledge, and help students to complete the course work content independently. In short, if our school wants to improve the teaching quality and teaching efficiency, it is necessary to constantly explore VR virtual reality technology in the future and study more advantages in this technology to adapt to the teaching of art design courses in the future.

6. Conclusion

Through the reform of the teaching method of art design major in our school, it can stimulate students' interest in learning professional courses, and cultivate students' ability of independent learning and innovative thinking, so that students can master the knowledge more firmly. To a certain extent, this creates a simulation teaching environment, which effectively improves students' learning efficiency. In the author's opinion, this is an effective teaching mode suitable for independent colleges and universities. At the same time, VR virtual reality technology will help teachers of art and design majors to carry out more in-depth teaching work of art and design majors, and will also become a major breakthrough in the teaching method of art and design majors in our school in the future. Teachers and students are encouraged to join in the research of VR virtual reality technology, pool their wisdom, and truly achieve the expected teaching goals.

Acknowledgments

This paper is the research result of the scientific research fund project of Liaoning Provincial Department of Education. The project name is "CVIS" innovative research on visual image transformation and upgrading of Liaoning "time-honored" cities - A case study of Shenyang City. Project number: LCW202102.

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