Research on the Application of Virtual Simulation Technology in the Practical Teaching of Railway Crime Scene Investigation

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Abstract: Virtual reality technology is mainly used to simulate human experience in natural environment, including vision, hearing, dynamic and other behaviors. It is an advanced human-computer interaction technology. In China, this technology has been used for field investigation and research. Virtual reality technology not only solves the situation of simulation distortion and incomplete content in the past teaching, but also solves a series of problems such as lack of time and incorrect evaluation. After our careful design, it is divided into four steps: background, environment, dynamic and interaction. Virtual reality technology can be applied to field investigation and training education[1]. VR technology application, and reasonably capture the role of this cutting-edge technology, actively carry out new functions, simulate the reality of technology improvement, this technology, all applicable objects to prevent secret leakage, set safe countermeasures. Emergencies.

1. Introduction

Field investigation and simulation is a practical guidance method in the process of improving the students' ability of enlightenment in China's public universities. However, due to the limitations of other factors in this kind of teaching, students' thrust is limited. Having sex? Therefore, changing the original concept of education and formulating new guidance methods play an important role in China Public Safety Institute. With the continuous progress of science, China's science and technology are also constantly developing[2]. The most effective way we can do now is to introduce virtual reality technology into field investigation and training. At the same time, in addition, this is the concern of the investigation of public security experts. In order to improve the use of new education methods, we can cultivate better public security experts, and the effect of virtual reality technology is pure regeneration.

2. Overview and Characteristics of Virtual Reality Technology

Virtual reality technology is a new high-tech developed in recent years, also known as spiritual technology. The main features of VR technology are investment, interaction and imagination. The principle of virtual reality technology is to use computer to simulate three-dimensional space[3]. At the same time, it can simulate the user's visual effect, auditory effect and touch. In addition, virtual reality technology is used to simulate the real social environment. In order to fully simulate the social environment, public security experts can personally simulate the real technology and dialogue with nature. The formation of virtual reality technology is not only related to computer science, but also to information science. Virtual reality technology is also regarded as the representative work of information technology. Virtual reality technology has the following characteristics. Strong perception, virtual reality technology, based on the user's feelings, allows users to feel the real life. In the traditional computer simulation process, a number of screens with a wider field of vision are usually used to simulate to match the sound[4]. The progress of virtual reality technology and simulation experiment technology has filled in the effect of traditional

computer. Users can touch and smell, so they can experience all sides, and finally realize the user's sense of investment.

2.1. Virtual Reality Technology is Immersive

Virtual reality (VR) technology is mainly based on the analysis of human physiological and psychological characteristics, 3D image technology and combination of computer[5]. In order to implement virtualization, multi-sensor interaction and the use of other campus cultural festivals to improve users' perception, and finally generate three kinds of 3D virtual reality space differences. In virtual reality technology, users can not only use roaming function to observe their own perspective, but also interact with objects in virtual environment. This is the core of virtual reality system. Virtual reality technology is interactive. In the process of virtual reality, users can interact with any of its objects. Sensors can talk in virtual process, so users can input directly through virtual environment, such as helmets and gloves, and influence objects in virtual reality environment according to their own language and actions. The objects of virtual reality will respond accordingly. Similarly, the objects of virtual environment can also affect users, and users need to make corresponding judgments and reactions[66]. The main function of the sensor is to convey the behavior and influence of the two and promote the interaction between them.

2.2. Virtual Reality Technology has Strong Autonomy

In virtual reality, because virtual objects can affect users, virtual objects are usually a part of the program, and their operations and functions are more passive and independent. Instead, users can interact with virtual objects and interact with virtual objects according to their own ideas. They are more active and independent.

Table 1 Knowledge teaching content

Project	Knowledge points	
Ideological Education	Relevant laws and regulations	Fire safety management system
Basic knowledge of fire	Combustible material	Combustion supporting substance
Basic knowledge of fire protection	Basic fire prevention knowledge	Common fire hazards
Fire alarm	Report to nearby people	Call the fire brigade
Fire fighting	Definition, cause and classification of fire	Fire development process
Fire prevention	Preventive measures	Find out the fire hazard
Fire hazards	Development process of indoor fire	Fire classification

3. The Application of Virtual Reality Technology in the Field Exploration Training Teaching

Virtual reality technology can solve the problem of simulation distortion in field investigation and training. In order to ensure the effect of on-site training, we should pay attention to on-site simulation at ordinary times, which can effectively improve the guidance effect. In addition, the effect of practice has improved significantly. In the last training, in order to reduce the distortion of the simulated visual field, the selection of actual cases, the selection of special training places, the reduction of the use of props and other interventions were carried out. Not only that, we are still on the scene[7]. During the layout of physical evidence, the psychology and behavior of prisoners are imitated. However, through the analysis of the process and results of university training, the traditional model is used for field investigation and teaching training guidance, and the phenomenon of simulation distortion still exists. In the process of virtual reality, the mold made of corpse instead of plastic is used. In this case, the mold made of plastic material is really the wound of the dead and the wounded, which does not reflect the shape, etc. the physical evidence and traces left on the

scene are relatively single and small. Secondly, due to the small number of collaborators, they play multiple roles at the same time. In website management, website investigation and site, there are often a large number of items and blood stains left in the final virtual program[8]. Therefore, the reality simulation under the traditional mode is the biggest deficiency, which seriously affects the enthusiasm and enthusiasm of students. However, after the virtual reality technology is applied in the field investigation, training and education, we can effectively solve the big problem of simulation distortion, which not only constructs the crime scene, but also adopts the virtual reality technology in order to more real crime scene. Not only that, we also use virtual reality technology to build the traffic state and surrounding environment of the crime scene, providing effective evidence for the investigation. According to Anqing Anqing, although the website can be re established, few community workers have simulated the distortion. Moreover, in order to effectively avoid the last simulated condition of the terms, it is beyond the scope management of the website.

4. Virtual Reality Technology Can Solve the Problem of Incomplete Content in Field Research and Training

Because there are guns, explosives, setting fire and so on, it is still difficult to investigate the website. At the same time, the investigation method and focus of each case are different. For example, in the case of homicide, the focus of the on-site investigation is mainly on the body of the victim. Students analyze traces and crime tools on the spot. During the explosion, the focus of the field investigation is the site conditions, and the important analysis is based on the site explosion residues and specific conditions. Therefore, in the process of on-site investigation and study, the composition of on-site investigation is more complex and the process of investigation is longer[9]. A set of survey processes completed is the scope of protection, including sites, processing, access, measurement, recording, and analysis. Therefore, in the process of making on-site trainees able to carry out on-site investigation, comprehensive efforts should be made for each situation. However, in the process of on-site investigation and study, the existing methods can not provide good investigation content to the students. As for the type of situation, traditional methods mostly choose simple situation, such as killing and robbery. Although the movement is relatively simple, it has no great influence on the improvement of the students' reconnaissance ability. The existing simulation methods can not simulate other types of cases, such as explosive and other dangerous substances. Because of the high risk factor and the difficulty of investigation, the previous simulation methods have not been trained. Because the investigation and training of each website have certain restrictions on labor division to a great extent, the on-site investigation and training of the advanced students can only carry out part of the training, and can not fully train the whole website. The application of virtual reality technology in field practice can not only effectively solve the problem of incomplete training content, but also enrich the practice experience of advanced students. Because virtual reality technology is more mature now, it can not only simulate killing, theft, but also simulate simple scenes. At the same time, in the case of complex large explosion cases, virtual composition can also be carried out. At the same time, in the process of applying virtual reality technology, advanced students can view from their own ideas, observation, any angle, and interact with the simulated objects. Under the limited training content, each student can complete the individual guidance content of field investigation and training. In the school of public security, professional students generally have a very strong sense of confidentiality, which is another necessary skill for workers[10]. Therefore, for the study of the Ministry of public security investigation, the corresponding confidential education should be strengthened before the field investigation. This can not only effectively improve students' understanding of confidentiality, but also effectively reduce the situation of leak investigation.

5. Conclusion

In general, according to the current data results, the most widely used virtual reality technology

in the medical field, virtual reality technology is no longer a new technology. More and more mature virtual reality technology is used in field investigation. In recent years, practical training is a new education method and a bold attempt in the practical education of public security in China. As a fast developing technology, virtual reality technology can not only effectively improve trainees' ability of on-site investigation, but also cultivate public security experts. In addition, virtual reality technology can be used for field investigation and training. Play that role effectively.

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