

Research on the Practical Teaching of Modern Property Management Based on Virtual Simulation Technology

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Abstract: The practical training effect of modern property management is very important for the students to master the theoretical knowledge and related skills,and to adapt to the internship as soon as possible.The traditional practical teaching often only focuses on the teaching form so that the students are difficult to acquire the real abilities in the practical training.This paper explores an on-line virtual property management practice teaching model with the help of the property management SaaS platform,which allows students to simulate the roles of property management and Contact with the practice of modern property management in advance to achieve a seamless transition from in-school learning and training to internship and employment.Teachers can use the platform data to evaluate the training effect of students.

Keywords:Virtual simulation technology; Modern property management; Practical teaching; Computer simulation; Virtual Reality Technology

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1. Introduction

Modern property management is a relatively new management discipline,which has been set up in many higher vocational colleges and some undergraduate colleges across the country.With the internationalization and intelligitization of property management and theprogressivemodernization of information technology of modern property management,the demands on managers are also increasing,so property management practical training course is more and more important.It is a must for students to experience,to sum up experience from the practice and to verify the objective law from experience.The traditional cramming method of classroom teaching can not effectively stimulate students'interest in theoretical courses.In the long run,it has also greatly affected students'mastery of the basic knowledge of property management courses to a large extent.Therefore,this kind of courses'teaching needs to consider its particularity;teaching methods can not be limited to the traditional classroom,experiment;practice and other practice-based teaching methods are essential for learning property management.

Modern property management itself is a highly practical integrated management discipline,property management practical teaching not only covers the traditional property management tendering and bidding,property early stage intervention and earlier stage property management services,housing maintenance management,property equipment and facilities management,property environmental management,property public order maintenance,different types of property management and services,property financial management practice training,etc.,but also covers intelligent security management,management of repair,electronic file management,human resources management,property culture,intelligent parking and other intelligent practical teaching of property management.In the specific teaching process,many teaching contents that need practical operation often stay at the level that teachers retell and students understand for a long time due to the limitations of site facilities,time and space conditions.At best,they can only engage in idle theorizing through student's homework,which is difficult to reach the target effect that is expected.Using computer simulation technology or VR technology to implement virtual practical teaching of property management can not only enable students to practise various modern property management courses personally in

the course of studying at school, but also evaluate the effect of practical teaching immediately, dynamically and objectively to enhance students' enthusiasm for participation and to stimulate students' interest in learning, which can even receive a better teaching effect than the actual practical training.

2. Research Status in Related Technical Fields at Home and Abroad

Computer simulation is a dynamic and realistic imitation of the structure, function and behavior of the system and the thinking process and behavior of the people involved in the system control by using electronic computers. Due to its economical, safe, repeatable advantages without the limitation of climate, site and time, computer simulation technology is called the third means that human beings understand and transform nature in addition to theoretical derivation and scientific experiments. Virtual Reality technology (VR), also known as virtual environment, spirit boundary or artificial environment, refers to a technology using computers to generate a kind of visual, auditory and tactile feelings to the participants, and allowing them to observe and operate interactively in the virtual world.

Computer simulation technology is mainly used in military field at first. Since 1980s, simulation technology began to enter a new era of computer simulation with the help of computer technology's development. It began to be widely used in instruments, virtual manufacturing, electronic product design, simulation training and other aspects of people's production and life. In China, it is relatively late to develop computer simulation industry that is mainly used in military and civil fields. In the open civil market, foreign enterprises are in a dominant position in the corresponding market by virtue of their advanced product technology and developed marketing network.

In recent years, VR technology has been widely used in virtual practical training. Some scholars have adopted VR technology to build a training evaluation system of virtual simulation scene according to the training needs of railway maintenance department to handle critical situations of abnormal running. The crane simulation training system established by VR technology allows the trainers to carry out various simulation operations according to the equipment operation rules. Others have developed a simulation training system on welding procedures and operation skills by using the VR platform with reference to the technical specifications for welding-related students. At the theoretical learning stage, some scholars also proposed a three-dimensional interactive simulation training system based on holographic projection technology to carry out training courses on structure disassembly, daily maintenance operation and fault handling of distribution automation equipment, which creates a new mode of power equipment training.

In addition, some literature analyzed a training game of business simulation designed with Unity 3D, Business Property Management in a Competitive Environment, which can create computer simulators that are used to train students majoring in real estate expertise and management. The main outcome of the gaming training is to enable students to learn new decision-making skills in commercial property management tasks in a competitive environment.

3. Virtual Practical Teaching Exploration of Modern Property Management

The professional field explored and researched by modern property management practical teaching based on virtual simulation technology mainly includes computer simulation, virtual reality technology and practical training contents of modern property management, as well as the relevant teaching modes and effect evaluation method. The research team should have the knowledge accumulation and comprehensive ability of developing and applying computer project, reforming and researching modern property management education, etc.

Due to the late start of the domestic computer simulation industry, the traditional simulation methods are constantly upgrading. Civil simulation technology is mostly used in the field of academic research and product development, while VR technology is commonly used in commercial promotion and entertainment games, etc., so it is difficult to develop the virtual simulation training platform directly. In addition, there are many practical projects of property management, and their contents are complicated. Considering the requirements of manpower, material resources and time, there is a certain degree of difficulty to directly develop virtual simulation training platform, especially to develop VR training platform, so that general software companies are unable to do it. Combining years of accumulation of teaching experience and data collection with research done during the time of taking a temporary post in the property company in holiday and the intelligent property housekeeper system provided by the school-enterprise cooperation units, the course standards of intelligent rear services and property service have been set and the course textbook of Intelligent Rear Services and Property Service has been compiled. Based on this, the virtual teaching of practical training of modern property management connects the traditional practical training of property with the online business of intelligent property butler to virtually simulate a primary modern practical training platform of property management to conduct study on the practical teaching model and the effect evaluation

of property management.

The smart property butler system (“butler” for short) is a smart property platform integrating SaaS platform and intelligent hardware developed by Beijing Wutong Space-Time Network Technology Development Co., Ltd. (“Beijing Wutong” for short), which provides a one-stop smart community with total solution for property enterprises and helps property management update intellectually and enable innovatively. So far, Beijing Wutong has deeply cooperated with many property management companies nationwide, and there are nearly ten property service companies in Henan and Shandong. The butler has been put into operation in dozens of blocks/projects of these companies, and the system’s function is gradually improved. Based on this, the research team aims at the property management project to integrate the butler software with the practical teaching. Operating the software, the students can apply the theoretical knowledge, improve their practical ability, and experience the modern property management practice operation process online and offline. Teachers can evaluate the virtual training effect of students with background data.

4. Conclusion

Since the beginning of 2020, the COVID-19 pandemic has swept the world and had a profound impact on the practical teaching of management. Even today of normalization of the epidemic, it is also an urgent problem how to carry out the practical teaching of management courses to achieve efficient teaching interaction. Introducing virtual simulation technology into the modern property management practical teaching courses, it is for achieving more natural human-computer interaction in the platform and enabling students to better understand the workflow of modern property management. The effect of property management practice simulation practical training can provide reference opinions for other management majors to conduct virtual simulation practical training.

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