

Analysis of the Key Points of Computer Virtual Technology Application in Computer Teaching



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Abstract: Computer virtual technology is currently the most widely used technology in computer teaching, which can not only improve students' learning efficiency but also enhance students' understanding of the teaching content and enable them to get real feelings and experiences. The advent of the information age and the expansion of the application of computer education technology in teaching, has enhanced the requirements of society for computer talents, but the traditional teaching mode can no longer meet the needs of the current social development, in order to promote the improvement of education, schools need to constantly reform and innovate the teaching mode, so the application of computer virtual technology in computer teaching can help improve students' In view of this, this paper discusses the application points of computer virtual technology in computer teaching, so as to give better play to the superiority of computer virtual technology application and improve the overall teaching quality.

Keywords: computer teaching; virtual technology; vocational education

Preface:

In traditional computer teaching, students are accustomed to a closed learning mindset for a long time, and the single and patterned teaching methods of teachers make students regard computer teaching as the learning of "rigid theoretical" knowledge, which leads to the gradual decrease of students' interest in computer learning. At the same time, in the actual teaching process, students' computer knowledge is different due to their different foundations and learning ability. If we want to improve student's learning effect and cultivate their interest and mastery of computer knowledge, we need to apply virtual technology to computer classroom teaching, so as to change and adjust the current teaching design and devote ourselves to developing situational teaching methods In view of this, this paper analyzes the advantages and problems

of using virtual technology in computer teaching and puts forward rationalized teaching suggestions.

1. Overview of computer virtual technology

Computer virtual technology belongs to a kind of computer information technology, and the current mainstream virtual technology includes the virtual operating system, virtual hardware, and other modes. Take the virtual hardware mode as an example, it mainly builds storage, computers, and hardware devices on the virtual platform. At present, computer virtual technology has the characteristics of real-time interaction, shared resources, integration, shared applications, etc. Technology can free people's attention from the problems and matters that need to be solved, greatly improve the efficiency of work, and has strong applicability. Computer virtual technology plays an increasingly important role in modern social life and production, and its application

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areas are becoming more and more extensive. In a sense, computer virtual technology is a general term for methods, systems, and mechanisms used to achieve various purposes with computers as the medium. It consists of two main aspects: first, the simulation of the interaction between the real world and people and the establishment of the corresponding environment to achieve the functions of the human social system in the real and virtual world; second, the simulation of human-human interaction to achieve the prediction, control, and feedback of their behavior and its consequences (Chen , 2022). From the functional point of view, it includes functions such as management, control, prediction, and feedback; from the application field, it includes simulation technology, decision support system, simulation technology, and distance education.

With the development of the computer network information era and distance education as well as the further deepening of China's higher education reform work, computer virtual technology will be more widely used, and at the same time, applying computer virtual technology to computer teaching in colleges and universities is an effective way to break the traditional teaching mode and open up computer teaching ideas, so colleges and universities attach great importance to the application of virtual technology in computer teaching research.

2. The analysis of the advantages of the application of virtual technology in computer teaching in vocational schools

With the development of society, computer technology occupies an increasingly important position in the field of education, so computer technology teaching also needs to keep pace with the times. But at present, there are many problems and defects in computer teaching in vocational schools, such as (1) teaching equipment is old and backward. Some vocational schools are backward in computer teaching conditions, and many hardware devices and teaching working environments can hardly meet the actual teaching needs, and some devices fail because

they are not regularly maintained and overhauled. (2) Some courses are difficult to realize. Schools mainly use original software and hardware equipment in order to reduce the cost of equipment repair and maintenance, which leads to hardware partitioning, BIOS settings, and other operations difficult to complete in the existing computer, although it is possible not to disassemble and restore part of the machine, but also affects the system of the demo machine, increasing the difficulty of subsequent maintenance (Wei & Xu , 2022). In view of this, virtual technology can be applied to computer teaching as a way to solve the drawbacks of current teaching.

2.1.Meet the differentiated needs of students

Computer courses are hands-on type subjects, but the limitations of hardware teaching resources by vocational schools, result in the existing hardware equipment can not meet the learning needs of students, while the maintenance cycle will be extended due to the operation of the equipment EastJet event, in order to increase the cost of equipment maintenance, in view of this, virtual technology can be used to establish the school district computer virtual experimental teaching center, reduce the consumption of funds at the same time can also Reduce the loss of hardware equipment, improve the efficiency of the use of equipment. Virtual technology refers to the use of computer networks and multimedia technology to provide a new learning environment for students so that students can get a surreal experience.

The advantages of virtual technology in computer teaching are that it can effectively meet the differentiated needs of students and thus achieve a personalized education approach, which is due to the different learning bases and learning abilities of students in vocational schools, which leads to differentiation in computer learning, for which teachers need to pay attention to the specific learning situation of students in the class and divide the existing students into two types, i.e., ability enhancement and learning The former emphasizes the need for students to build on their existing

learning. The former emphasizes the need for students to improve their abilities based on their existing learning, which requires the teacher to arrange relatively difficult teaching tasks for students through virtual technology so that students can stimulate their learning potential in an immersive experience (Wang et al., 2022). For the latter consolidation type, students need to strengthen the basic computer-related knowledge points, so the virtual technology can set up partial basic and consolidation type learning tasks so that students can get the basic knowledge in the participation of the consolidation, but also in the practice and consolidation of the computer learning skills, reduce the sense of rejection of students learning, and help students to establish the self-confidence of computer learning.

2.2 Saving teaching equipment expenses

The application of virtual technology in the computer classroom of vocational schools can effectively improve the efficiency of teachers using traditional teaching materials to explain students' operating skills and reduce the loss caused by operating errors due to unskilled operation skills, while virtual reality software can effectively improve students' understanding of theoretical knowledge by bringing them into real situations for operation practice. Take the creation of a "cloud computer room" as an example, according to the current situation of computer teaching in China's vocational schools, the school computer room is the main public place for students to conduct computer teaching. At present, in order to ensure the stability of computer performance in the computer room, usually use the restore card technology, after the computer reboot, the computer is restored to the original state (initialized state), or the computer is set by the administrator permissions, in the class time students are not authorized to operate the computer, the existence of such restrictions on permissions is easy to affect the students to study the storage of materials, so you can set up the cloud room In this way, managers can mirror the terminals of the server so that students can enter their accounts and passwords

in the virtual desktop system to log in, and even if students study in the server room during class they can still start the original data information, avoiding the need for students to reconfigure the computer environment and network environment after changing teachers (Bu , 2022). In addition to the above-mentioned functions, desktop virtualization technology can migrate data from computer terminals, but given the relatively large amount of data information, if virtualization technology is used managers need to pay attention to the security of information in the virtualized server room, and appropriate encryption or backup processing.

In summary, in the actual application process, it is found that the simulation and emulation of computer programs through virtual technology can create a good learning atmosphere and environment for vocational schools, and can also provide teachers with new teaching ideas and tools to assist teaching, helping to further improve teaching efficiency.

2.3. Reduce the difficulty of maintenance and inspection of teaching equipment

With the deepening of Internet applications, virtual technology has been widely used in the teaching field. Among them, the virtual reality software system is one of the most representative software products in virtual teaching systems, which is a product with various functions such as human-computer interaction function and interactive interface and multimedia developed by using various high-tech means and methods such as computer simulation, simulation and reproduction to assist in education and teaching, taking operating system and application setting and installation teaching as an example, because this part of teaching content for system Because of the time and effort required to teach this part of the system, which is more obviously destructive for computers, some schools fail to really carry out contact activities on related topics, which leads to students not having enough time and opportunities to develop computer operating system setup and installation skills (Liu , 2022). At present, companies represented by VMare have installed independent operating systems in personal

computers, and for vocational schools, this computer system can be installed into a virtual machine and the computer can still be installed with software like a normal computer, so that vocational schools do not cause damage to the machine itself when teaching computer applications and operating system configuration, in order to meet different scenarios of school Teaching needs.

3. Computer teaching in the application of computer virtual technology points of analysis

3.1.Application in the construction of resources

The reform of computer teaching in vocational schools is not a mere slogan, but a solution to the problems in computer teaching and teaching management, the most crucial and important of which is the storage of teaching resources, for this reason, teachers in universities need to create various "virtual educational resources" and build online storage resources to help students carry out independent learning. At the same time, the offline storage space can be released with the help of online virtual storage, which can save storage resources (Deng , 2022). The purpose of computer teaching in vocational colleges is to teach students computer-related theoretical knowledge and operational skills, so the database can be constructed with the help of virtual technology and relevant data information, course theory, and tutorial materials can be uploaded into the database to realize teaching information resourcefulness, formality, and networking. At the same time, virtual technology is applied to the construction of resources, which can realize the expansion of resources, improve the quality of teaching of current information resources, and help the teachers in charge of the course to solve current problems such as the lack of resources.

3.2.Application in hardware teaching

Computer virtual technology is a kind of simulation of the knowledge learned by using the powerful computing and processing ability of computers, allowing students to learn in a simulated environment, to a certain extent, to cultivate their independent thinking and independent learning

ability, using virtual technology as a carrier to organize students for hardware teaching, so as to reduce the pressure and burden of students' practical training, and students dare to keep trying, through repetitive practice, students can master practical skills. Take "computer hard disk" as an example, if students are given a real hard disk directly, they will feel nervous and afraid in parameter setting and installation, and it is difficult to recover it if there is a setting error, so teachers can set up "computer hard disk virtual teaching situation" around the teaching theme. Even if there are mistakes, the teacher can continue the practice by resetting the virtual scenario, so it can be seen that the use of virtual technology can relieve the psychological pressure of students' learning, and at the same time play a cost-saving effect (Yang et al., 2022).

3.3. Application in experimental sessions

Computer teaching in vocational schools covers very many experimental items, and the application of virtual technology can make more possibilities for practical training teaching, for which the school should build a special laboratory and prepare complete teaching equipment and experimental equipment, although the construction of the laboratory requires a lot of money when the virtual laboratory is built, it can carry out a number of teaching tasks, which cannot be replaced by traditional teaching methods. In the process of computer teaching in vocational schools, students can learn knowledge through computer equipment and can also carry out practical training operations, if it is practical training operation, computer equipment is easy to fail, such as disk, graphics card, CPU, and other hardware failures, affects the subsequent learning of students in school.

In view of this, the use of virtual technology for each class of students led by teachers to carry out a complete simulation of teaching, this is because virtual technology includes a variety of types of infrastructure settings virtualization, system virtualization, and software virtualization, for example, system virtualization, this virtualization can be virtualized servers and desktop virtualization,

through virtualization software can be a single physical host decomposed into a number of virtual machines, virtual machines. At the same time, these virtual machines are independent of each other and can achieve resource sharing, and in specific teaching, the operating system is effectively isolated from the physical computer, and by operating the virtual machine, neither the running program nor the operating system will be disturbed, so as to avoid damage to the physical machine in long-term operation (Qu , 2022). Secondly, teachers can use virtual devices instead of hands-on exercises and reduce the learning difficulty can also improve students' interest in learning, specifically in the adjustment of input and output devices, teachers can complete the guidance of teaching content through virtual technology, so as to enrich students' actual experience and improve the final teaching effect.

Network experimental teaching plays a pivotal role in computer teaching, and the quality of network experimental teaching directly affects the quality of network teaching, but in traditional computer teaching, safety education can be affected by multiple factors, which increases the difficulty of implementing safety experiments. From the perspective of network equipment maintenance, the use of group form to develop network experimental design will, to some extent, affect the independence of network experiments and greatly reduce the teaching effect of network experiments. The setting of the virtual machine can create a relatively realistic network environment for students to ensure the independence of students' learning and learning effect, such as in conducting hacking experimental exercises, students can follow their own interests and hobbies to choose the appropriate application software, which can enhance the diversity of experimental applications.

4.Conclusion:

Virtual technology as an advanced technology, with high simulation and scalability, can be converted into a visual computer system software program designed for operation when interacting and

realizing information transfer on the computer through the network, making the system software design closer to the hardware in reality. In vocational school computer teaching, computer virtual technology can be used to improve the current classroom teaching effect, so as to make up for the shortcomings in traditional teaching. As computer teachers, they need to actively study virtual technology in daily teaching and apply it to actual teaching in a reasonable way to enhance the efficiency of school resource allocation.

Conflict of Interest

The authors declare that they have no conflicts of interest to this work.

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