

Teaching Practice of Virtual Simulation Experiment of “Civil Engineering Construction” Course

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Abstract: The advancement of science and technology enables teachers to strive to break through the time and space boundaries of classroom teaching activities through the use of scientific and technological means when teaching, and provide students with a better learning environment. This article discusses the specific ways of using virtual simulation technology for teaching in civil engineering construction teaching in colleges and universities. It is hoped that in the process of building a real learning atmosphere for students, their learning ability, knowledge reserve, practical skills and professional literacy will be effectively improved, And gradually developed into high-quality engineering talents that society needs.

Keywords: Virtual Simulation Experiment; Teaching Practice; University Education; Civil Engineering Construction

As a product of the rapid development of the information age, virtual simulation experiment teaching is not only an important driving force for teachers to carry out practical teaching work, but also an important indicator of the introduction of information technology into the education industry. Higher education institutions aim to cultivate professionals who meet the requirements of social positions. Therefore, they need to help students master professional knowledge and technology, and at the same time they need to be able to obtain better under the guidance of practical ability, speculative ability and innovative spirit. development of.

1. Concrete train of thought for construction of virtual simulation experiment system of civil engineering

1.1 Combine knowledge structure

Institutions of higher learning mainly focus on cultivating professionals who meet the social requirements. Therefore, in order to cultivate civil engineering talents who are more professionally qualified, when a school constructs a virtual simulation experiment system, it needs to be able to meet the characteristics of the civil engineering construction discipline and build more A professional laboratory that can meet practical needs to ensure the smooth progress of teaching. Therefore, the school needs to start with the existing knowledge structure level of the school and combine the actual situation to carry out the comprehensive experiment of civil engineering construction specialty, single knowledge teaching experiment, simulation practice experiment and comprehensive teaching experiment system, so that students can participate in virtual simulation experiment learning activities., In the process of multi-field and multi-vision, can quickly improve their professional skills and practical ability.

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1.2 Combining professional development

The rapid development of the times has ushered in a more vigorous development vitality in the civil engineering industry. Therefore, colleges and universities with the educational mission of cultivating high-skilled talents need to closely integrate professional development in the process of establishing a virtual simulation experiment system. In order to be able to meet the needs of the future development of the profession, students can continue to exercise their professional skills through the participation of virtual simulation experiment activities in a planned way to perfect the experimental teaching work in the footsteps of the development of the times. In the construction of virtual simulation experiment system, colleges and universities should combine the construction of experimental contents such as engineering mechanics, civil engineering, information technology and engineering management, so that students can participate in various experimental activities and become more systematic in the school. Improve professional practice skills.

1.3 Combine with the new teaching concept

After the completion of the virtual simulation experiment system of civil engineering construction, the school needs to require teachers to break through the constraints of outdated teaching viewpoints under the guidance of new teaching concepts, so that the virtual laboratory can timely conduct information on external information resources during the long-term open process. Grasp, and combine the actual situation of the school and the current teaching level, to change the existing experimental content in a targeted manner to ensure that the overall teaching work can obtain a more comprehensive development in the continuous integration and sharing of information resources.

2. The concrete ways of building virtual simulation experiment system of civil engineering

2.1 Meet the requirements of students and establish a teaching system

In order to enable students to participate more systematically in practical activities, the improvement of the civil engineering construction virtual simulation experiment system has gradually made the overall teaching activities from the original non-intelligent, and gradually developed in the direction of intelligence under the progress of science and technology. And to create a more realistic practice environment for students, so that they can complete the civil engineering construction practice activities more realistically without leaving home, to ensure the practical improvement of professional skills. The characteristics of the civil engineering construction course itself are more suitable for the school to complete the virtual simulation experiment system, so that the students can participate in the practical experiment activities, not only to ensure the improvement of professional skills, but also to ensure the maximum safety of students.

2.2 Introduce the school-enterprise cooperation model

In order to ensure the smooth construction of the virtual simulation experiment system, colleges and universities need to integrate with the actual situation of the school to find companies that can cooperate with each other in the region for negotiation. In the form of cooperation mode, a virtual simulation technology experiment base is built together. This will not only enable the school and the enterprise to better establish the direction of talent cultivation in mutual exchanges, but also enable students to accumulate professional skills and work experience in practice in the practice activities that the company joins, so that they can. While continuously improving practical ability, it will lay a solid foundation for future smooth employment.

3. Conclusion

In order to ensure the smooth progress of education, civil engineering teachers of colleges and universities use virtual simulation technology to innovate teaching methods when they are teaching activities, which can not only give students a broader practice platform, but also break through the emergence of old teaching methods. The teaching mode can also effectively mobilize students' learning initiative, so that their application ability and practical ability can be improved with high quality.

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