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Research on Virtual Simulation Practice Teaching Reform of Economics and Management Specialty

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Abstract

Virtual simulation experiment teaching is an important part of higher education information construction. Virtual simulation experiment teaching, as a new means of experimental teaching, relies on big data, virtual reality, multimedia, human-computer interaction and network communication technology to build a highly simulated virtual experimental environment and experimental objects, so as to achieve the purpose of cultivating students' comprehensive ability and provide new ideas for improving the effect of virtual simulation experiment teaching in economics and management.

Keywords

Virtual simulation; Experimental teaching; Economics and management.

1. Introduction

In 2018, the Ministry of Education proposed that "we should use modern information technology such as" Internet + ", virtual simulation and artificial intelligence to vigorously promote the reform of university teaching, and take the construction and application of online open courses as the driving force to promote and lead the deep integration of information technology and education and teaching in the world. The supporting role of information technology, such as virtual simulation, in personnel training is becoming more and more obvious. At the same time, colleges and universities continue to explore the effective mode of sustainable operation of online virtual simulation experimental teaching projects, expand the breadth and depth of experimental teaching content, extend experimental teaching time and space, improve the quality and level of experimental teaching, and promote the deep integration of modern information technology and experimental teaching.

2. Ideas for the Construction of Virtual Simulation Experimental Teaching of Economics and Management

2.1. Principles of Experimental Design

The principle of experimental design includes the basic orientation and content requirements of the project, which is the premise and guarantee to ensure the quality of the project construction. The experimental design should be able to stimulate students' interest in learning, reflect the research and exploration based on the basic requirements, highlight the high-level, innovative and challenging, improve students' autonomous learning and inquiry ability, and cultivate students' ability to discover and solve problems. The content of experimental design should highlight the characteristics of disciplines and specialties, give full play to the advantages of virtual simulation technology, and conform to the orientation of the school and the characteristics of professional personnel training. The experimental process should reflect

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the exploration of knowledge and problem solving, and there should be an interactive teaching mechanism between students and students. The experimental assessment should highlight the process assessment of the core knowledge and ability elements of the experiment, so as to evaluate the degree of achievement of students, realize the analysis of students'ability structure, and achieve the requirement of continuous improvement of experimental design on this basis.

2.2. Experimental Process Design

The interactive operation of the experiment is the core and focus of the experimental design. Through the interactive operation of the experiment, we can verify whether the purpose of the experiment and the goal of ability training are achieved. The mode of experimental interactive operation is used to explain what kind of input device the experimenter needs to use to interact with the experimental scene in order to complete the experimental operation. The higher the similarity between the experimental special effects, sound, animation and the experimental phenomena in the real world described in the design script, the stronger the immersion and realism of the experimenter in the operation process, and the better the experimental teaching effect. The experimenter can determine whether he operates properly in the process of virtual simulation experiment through the experimental results.

2.3. Knowledge Helps Design

The design is divided into three parts, namely, the pre-guidance of the experiment, the knowledge prompt of the experimental process and the online guidance of the experiment. Experimental pre-guidance means that students complete the corresponding courses or knowledge before the start of the experiment, otherwise it is difficult to understand the experimental knowledge or grasp the experimental content. Knowledge prompt in the process of experiment refers to the prompt and guidance of important knowledge points in the process of experiment. There are various forms of prompts, such as the form of pop-up box plus text, the form of animated character explanation, etc. Experiment online guidance means that students can get online guidance if they have questions during the experiment. The system should provide students with quick and accurate guidance and feedback functions to reduce learning obstacles and improve students' interest in learning.

2.4. Design of Experimental Examination

The experiment is divided into teaching demonstration, learning and assessment learning, which is an incremental way of learning process. Teaching demonstration enables students to learn experimental methods, theoretical knowledge and teaching content. Learning means that students can give full play to their subjective initiative and complete experiments according to their own ideas and judgments. Assessment refers to the way in which students complete the designated assessment objectives according to the assessment content set by the teacher. Assessment methods are divided into three modes: process assessment, summary assessment and comprehensive assessment. Process-based assessment mainly examines the experimental process, focusing on the operation sequence, operation conditions and step-by-step experimental results. The summative assessment should be combined with the real experimental process, especially the free, open and building-type simulation experiments, and the results can be finally generated. Comprehensive assessment mainly focuses on the innovation of students'experimental design ideas and schemes, and gives a comprehensive score based on the preview, performance, operation proficiency and experimental report of the experimental process.

2.5. Experiment Report

Each student is required to submit an experiment report, which is a record and analysis of the experiment, as well as a reflection and evaluation of the experiment. Automatically extract key

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processes and parameters, experimental results and other data according to the operation process of students, graphics and images recorded by the system, as well as analysis and thinking filled in by students, including text description, experimental screenshots, data tables and other information, as well as voice, video and other attachments.

2.6. Experimental Guidance Documents

Experimental guidance documents mainly include experimental instructions and video demonstrations. The experimental instruction book, in the form of documents, guides students to carry out the operation of the experimental project, as an auxiliary knowledge learning material before the experiment. It requires comprehensive knowledge points, close integration with experiments, and strong guidance and pertinence. Including but not limited to basic theoretical knowledge, description of experimental purpose, description of experimental requirements and description of experimental steps. The knowledge points are required to cover the experimental items, and the elaboration is clear and easy to understand, clear and illustrated. Video explanation and demonstration, in the form of video explanation and demonstration, guide students'experimental operation, and thoroughly explain the key and difficult points, if necessary, provide demonstration of the experiment.

3. Conclusion

The construction of virtual simulation experiment teaching needs a long process, and colleges and universities should introduce relevant institutional measures to support the construction of virtual simulation experiment teaching projects. Colleges and universities should invest sufficient funds in the construction of virtual simulation experimental teaching, and encourage teachers to actively participate in the research and reform of experimental teaching. The virtual simulation experimental teaching system of economics and management is built, which is sustainable and improved, and the conventional research methods are used in the new research field to cultivate students' exploration spirit, scientific thinking, practical ability and innovative ability, so as to promote the quality of virtual simulation experimental teaching of economics and management. It is the trend and the only way for the development of economic management experimental teaching to strengthen the construction of virtual simulation experimental teaching of economic management, strive to realize the sharing of experimental resources, make the best use of talents, materials and financial resources.

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