

Research and Exploration on Virtual Simulation Teaching in Universities of Finance and Economics

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Abstract: As an important position of personnel training, colleges and universities are faced with severe challenges. As an innovative educational technology, virtual simulation teaching provides a new idea, a new model and a new path for teaching reform of higher education with its unique advantages and strong vitality. As the main position of training modern economic management talents, colleges and universities of finance and economics must vigorously promote virtual simulation teaching and improve the quality of professional talent training. At present, it is still in its infancy that the virtual simulation teaching in colleges and universities of finance and economics, and there are still some problems, such as lack of professional teachers, outdated teaching content and lagging construction of teaching materials. Virtual simulation teaching needs to invest a lot of money and is a teaching method with high cost and poor effect. In this case, how to deeply integrate virtual simulation technology with the education and teaching of colleges and universities of finance and economics, give full play to the advantages of virtual simulation technology, and improve the professional ability and comprehensive quality of students has become an important issue to be solved in the education reform of colleges and universities of finance and economics.

Keywords: Finance and economics, Colleges and universities, Virtual simulation teaching, Research and exploration

1. Introduction

In the era of informationized and intelligentized education, virtual simulation teaching has attracted wide attention in the global education circle with its unique teaching mode and remarkable teaching effect. Especially in colleges and universities of finance and economics, the application of virtual simulation teaching is becoming increasingly popular, which has become an important way to improve teaching quality and cultivate compound and innovative financial talents. Virtual simulation teaching is to build a highly simulated reality of the teaching environment through modern information technology means, so that students can practice and learn in the virtual space to achieve the deep integration of theoretical knowledge and practical skills.

Taking universities of finance and economics as the research object, this paper systematically discusses the connotation, characteristics and current status of virtual simulation teaching^[1]. With the characteristics of immersion, interactivity, experimentation and innovation, virtual simulation teaching not only breaks through the limitations of traditional teaching time and space, but also provides rich practical opportunities, and more effectively stimulates students' active learning awareness and innovation ability. At present, many colleges and universities of finance and economics have successfully introduced and implemented virtual simulation teaching in the fields of financial transaction simulation, financial decision analysis, economic model simulation and so on, and have achieved certain teaching results. At the same time, some colleges and universities have established supporting virtual simulation laboratories and accumulated rich network teaching resources, laying a solid foundation for the promotion and deepening of virtual simulation teaching.

2. The Connotation and Characteristics of Virtual Simulation Teaching

2.1 A deep interpretation of the connotation of virtual simulation teaching

As a new teaching mode, virtual simulation teaching is the product of the deep integration of modern information technology and education and teaching. It makes full use of advanced computer

technology, network technology, multimedia technology and simulation technology to build a highly realistic simulation environment for students to create an immersive learning experience. In colleges and universities of finance and economics, virtual simulation teaching can simulate the real economic market environment, financial transaction process, enterprise operation scenarios, etc^[2], so that students can experience and practice in the virtual world, so as to realize the seamless connection from theoretical knowledge to practical skills.

This teaching method emphasizes "learning by doing" and "learning by doing", concretizing and visualizing abstract economic theories, enabling students to understand and master knowledge in practice, improving their ability to analyze and solve problems and to adapt to the complex and changing financial environment. At the same time, the virtual simulation teaching system can also flexibly adjust the simulation parameters and situation setting according to the teaching needs, so as to meet the teaching objectives of different levels and different majors.

2.2 The main characteristics of virtual simulation teaching

2.2.1 Immersion

The biggest advantage of virtual simulation teaching is that it can provide a highly simulated learning environment, make students feel as if they are in a real work or experiment scene through three-dimensional and dynamic interactive pictures and sound effects, which greatly enhances the sense of participation and experience in learning. It has a significant effect on cultivating practical experience and decision-making ability of students majoring in finance and economics.

2.2.2 Interactivity

In the virtual simulation environment, students can not only observe the simulation process, but also participate in the simulation operation in real time and carry out active learning. They can operate according to their own understanding and judgment of knowledge, and can get immediate feedback from the system, adjust strategies in time, forming a good interactive learning cycle.

2.2.3 Experimentation

Virtual simulation teaching breaks through the limitations of time and space of traditional laboratory, so that students can carry out experimental exercises whenever and wherever they are, and are not constrained by physical resources. It not only provides a lot of opportunities for repeated practice, but also is beneficial for students to independently arrange their learning progress and improve learning efficiency.

2.2.4 Innovation

Virtual simulation teaching encourages students to try new methods and strategies in simulation practice to stimulate their innovative thinking and the spirit of exploration. Faced with various unexpected situations and complex problems in the virtual environment, students need to use what they have learned to think and solve them independently, which plays an important role in improving their innovation ability, adaptability and teamwork ability.

3. An Analysis on the Current Situation of Virtual Simulation Teaching in Universities of Finance and Economics

3.1 The detailed description of application situation

At present, with the rapid development of information technology and the advancement of modernization of education, the application of virtual simulation teaching in universities of finance and economics shows a trend of increasing popularity and deepening. Many colleges and universities have widely applied virtual simulation technology in financial trading simulation courses. By building a simulated trading platform, students can buy and sell financial products such as stocks, futures and foreign exchange in a simulated environment, and experience the changing laws of financial markets and risk control strategies. In addition, in the aspect of financial decision analysis, the use of virtual simulation means can enable students to simulate the practical links of financial statement preparation, cost accounting, investment decision-making and so on in the simulated enterprise financial management situation, and enhance the ability to understand and apply financial theoretical knowledge.

Economic model simulation is also one of the important application fields of virtual simulation

teaching. By simulating complex phenomena such as macro-economic operation, micro-market behavior and policy effect, students can intuitively understand the principles of economics and flexibly respond to various practical problems.^[3] These virtual simulation teaching practice activities not only enrich the classroom content, improve the teaching quality, but also lay a solid foundation for training versatile talents to meet the needs of the financial industry in the new era.

3.2 The construction of teaching facilities and resources

In order to support the effective implementation of virtual simulation teaching, some leading universities of finance and economics have invested a lot of money and manpower to establish advanced virtual simulation laboratories. These laboratories are equipped with high-performance computers, 3D stereoscopic display equipment, interactive control systems and other necessary hardware facilities to provide students with a first-class immersive learning environment. At the same time, colleges and universities have actively developed or introduced a series of virtual simulation teaching software platforms and supporting textbooks to form a rich network teaching resource library, which is convenient for teachers and students to obtain and use online resource.

3.3 Teacher acceptance and the dynamics of teaching reform

Faced with new challenges and opportunities in informatization of education, more and more teachers in universities of finance and economics are actively accepting and promoting virtual simulation teaching methods. They actively participate in various related training activities, improve their educational technology literacy, and learn how to design and implement virtual simulation teaching projects. At the same time, many teachers continue to explore and innovate in teaching practice, integrate virtual simulation technology into curriculum design, stimulate students' learning interest and independent inquiry ability in forms such as task-driven and case analysis, which effectively promote the transformation of traditional classroom teaching mode to blended, project-based and other new teaching modes.^[4]

To sum up, the practice of virtual simulation teaching in colleges and universities of finance and economics is gradually expanding from point to surface, from the shallower to the deeper, which not only promotes the updating and upgrading of teaching content, but also greatly improves students' practical ability and innovation ability, injecting new vitality into the development of financial and economic Education in China. However, at the same time, it is still necessary to pay attention to and solve the problems such as how to further optimize the allocation of resources, improve the teaching quality monitoring mechanism, and strengthen the construction of teachers, so as to ensure the healthy and sustainable development of virtual simulation teaching in the field of financial and economic education.

4. Discussion on the Existing Problems and Solution Strategies of Virtual Simulation Teaching in Universities of Finance and Economics

4.1 The detailed description of existing problems

4.1.1 The development of virtual simulation teaching software lags behind the actual demand

At present, there is some problems, such as slow update speed, insufficient simulation scenarios, and imperfect function Settings, in the virtual simulation teaching software for finance and economics majors in the market, which are difficult to fully meet the actual teaching needs of college courses. As a result, students may not have access to the latest and most comprehensive financial practice context when conducting operational training in a virtual environment.

4.1.2 Insufficient mastery of new technologies by teachers

Due to the limited understanding and application ability of virtual simulation technology, some teachers cannot effectively play the advantages of virtual simulation teaching, which makes the teaching effect affected to some extent. At the same time, there are still some challenges for teachers on how to organically integrate virtual simulation teaching content with traditional theoretical knowledge and design a teaching plan that conforms to students' cognitive law.

4.1.3 Students have a low level of understanding and acceptance of virtual simulation teaching

Although virtual simulation teaching has significant teaching advantages, some students' cognition of it remains at the superficial level and fail to fully realize its important role in improving their practical skills and innovation ability. In addition, some students may have problems about adaptability to the virtual environment, such as over-reliance on the virtual environment and neglect of real-world practice.

4.2 Solution and strategy planning

4.2.1 Strengthening industry-university-institute cooperation to develop virtual simulation software more suitable for finance and economics teaching needs

Universities should actively collaborate with enterprises and research institutions to jointly develop virtual simulation teaching systems suitable for the characteristics of finance and economics to ensure that the software content keeps up with the forefront of the industry, can cover the teaching focus of various core courses, and has good user interaction and practicability.

4.2.2 Strengthening teacher training to improve teachers' ability to use virtual simulation technology

Regular professional skills training, seminars and other activities can be held to help teachers deeply understand the concept and method of virtual simulation teaching, and enhance their ability to design and implement virtual simulation teaching projects. Teachers are encouraged and supported to participate in relevant domestic and international training courses and workshops to enhance their educational technology literacy.

4.2.3 Strengthening guiding education to students to change students' traditional cognition of virtual simulation teaching

Through holding lectures and organizing experience activities, students can understand the important value of virtual simulation teaching and clarify its role positioning in the learning process. At the same time, the teaching process pays attention to cultivating students' ability of independent inquiry and problem solving, so that they can actively participate in and explore in the virtual environment, and realize the transformation from passively receiving knowledge to actively constructing knowledge.

4.3 The main points in implementation of strategies

4.3.1 Developing and improving virtual simulation teaching system

A complete virtual simulation teaching system that includes course design, teaching implementation, and evaluation feedback should be built and incorporated into the overall teaching plan of the school to ensure that virtual simulation teaching is widely applied in various teaching stages.

4.3.2 Increasing investment in virtual simulation teaching hardware facilities

The school's virtual simulation laboratory equipment should be continuously optimized and upgraded to ensure that the hardware and software facilities can meet the needs of high-quality virtual simulation teaching.

4.3.3 Encouraging and supporting teachers to conduct research and practice of virtual simulation teaching

Special funds or reward mechanisms should be set up to encourage teachers to participate in virtual simulation teaching reform research, promote successful experiences and excellent cases, form a good teaching innovation atmosphere, and promote the continuous improvement of virtual simulation teaching quality in colleges and universities of finance and economics.

5. In-Depth Discussion on Promoting the Quality Improvement of Personnel Training in Colleges and Universities of Finance and Economics with Virtual Simulation Teaching

5.1 Enhancing practical ability

In finance and economics education, virtual simulation teaching plays an indispensable role. It not only uses modern information technology to build a highly simulated financial trading market, enterprise operating environment and economic model experiment platform to provide students with a

safe and controllable practical training field, but also is extremely close to the real work scene. In such an environment, students can participate in the simulation operation of all kinds of actual business processes in an all-round and multi-level way, and have ample opportunities for repeated drills and in-depth experience from basic data analysis and processing skills to complex financial statement preparation, to financial investment strategies and risk management measures involving high-risk judgment and decision-making. The immersive learning process not only helps students to grasp practical skills, but also exercises their ability to deal with complex and changing economic situations and solve practical problems, so as to cultivate high-level financial professionals with deep integration of theoretical knowledge and practical experience.

5.2 Stimulating innovation ability

With its unique advantages, virtual simulation teaching encourages and inspires students to actively explore and innovate during the simulation of actual combat, rather than just being satisfied with following traditional rules and methods. In the virtual world, students get rid of many constraints of real conditions, and can freely try a variety of different strategies and solutions. Even if they encounter mistakes or failures, they can get timely feedback, and adjust their own path of action accordingly. This "trial and error - learning" cycle has greatly promoted the development of students' critical thinking ability and innovative consciousness, and enable them to have keen insight, flexible adaptability and continuous innovation ability in the face of the future rapid changes and fierce competition in the financial field, and then grow into innovative and high-quality financial talents who possess both profound professional knowledge and the ability to meet social needs.^[5]

5.3 Promoting education and teaching reform

With the rapid development of information technology and the change of society's demand structure for talents of finance and economics, colleges and universities of finance and economics are faced with the important issue of how to effectively promote the reform of education and teaching to meet the challenges of personnel training in the new era. Under this background, as a powerful teaching reform tool, virtual simulation teaching is particularly critical. Colleges and universities should fully recognize the discipline characteristics and future development trend of finance and economics major, deeply explore and make full use of the advantages of virtual simulation technology, and widely apply it to many teaching links such as course design, experimental teaching and case study, so as to form a new teaching system that closely combines theoretical knowledge, practical skills and innovative thinking. At the same time, colleges and universities should actively guide and promote the teachers to update their educational concepts, systematically learn and skillfully use virtual simulation teaching method, and integrate it into daily teaching practice, so as to comprehensively improve the quality and efficiency of personnel training in colleges and universities of finance and economics, and ensure that the students trained can play a leading role in the future financial industry and make contributions to economic and social development.

In summary, virtual simulation teaching has significant value for improving the practical ability of students in colleges and universities of finance and economics, stimulating their innovation ability and promoting education and teaching reform. Therefore, colleges and universities of finance and economics should further strengthen the research and promotion of virtual simulation teaching, making it the core driving force to improve the quality of personnel training.

6. Conclusion

To sum up, the application and development of virtual simulation teaching in universities of finance and economics not only reflects the innovation of educational technology and the progress of education and teaching concepts, but also has great significance for improving the quality of personnel training in the field of finance and economics in our country. By deeply exploring the connotation and characteristics of virtual simulation teaching, we have a deeper understanding of its positive role in simulating real situations, strengthening practical operations and stimulating students' active learning in financial education. Reviewing the current situation of virtual simulation teaching in colleges and universities of finance and economics in China, although a series of remarkable results have been achieved, there are still some practical problems, such as the delay in updating teaching resources, the need to strengthen the construction of teachers, and the lack of integration between theory and practice. To solve these problems, we put forward the corresponding solutions and strategies, including

increasing the investment in hardware facilities, optimizing the structure of teachers, and promoting the close integration of course content and industry needs.

Looking forward to the future, taking virtual simulation teaching as an important starting point to further promote the improvement of personnel training quality in colleges and universities of finance and economics, it is necessary to continue to explore and innovate, integrate virtual simulation teaching into the whole chain of financial and economic education to realize the organic unity of knowledge imparts, ability training and value shaping. At the same time, school-enterprise cooperation should be actively advocated and implemented to introduce more practical cases and cutting-edge trends, so that virtual simulation teaching can truly become a bridge between theory and practice, school and society, so as to cultivate financial professionals who can adapt to the development needs of The Times and have international competitiveness. Through this series of efforts, we have reason to believe that virtual simulation teaching will play a more critical role in the reform and development of higher education in finance and economics in our country.

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