

PROCEEDINGS ARTICLE

Exploration on the Application of Virtual Simulation Platforms in the Practice Teaching of Financial Management Majors in Private Colleges and Universities

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ABSTRACT

The virtual simulation platform is conducive to broadening students' practice ways, improving students' practice ability, helping private colleges and universities to reform the major training model and improving students' comprehensive quality. At this stage, in the process of using virtual simulation, private colleges and universities have problems such as not changing their concepts, insufficient investment, poor connection with the curriculum system, low student enthusiasm, insufficient platform stability and adaptability, etc. They must change the concepts, increase investment, optimize the curriculum system, strengthen cross-border cooperation, strengthen assessment, and improve students' enthusiasm.

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1. INTRODUCTION

For a long time, with the implementation of practical links, the economic professional teachers are puzzled. Due to the confidentiality, the irreversibility of economic behavior and other factors, much economic theoretical knowledge during the school period cannot carry out effective practice. The introduction of virtual simulation platform provides an effective way to solve this problem.

2. ADAPTABILITY ANALYSIS OF THE VIRTUAL SIMULATION PLATFORM IN THE PRACTICE TEACHING OF THE FINANCIAL MANAGEMENT MAJOR

Virtual simulation is using a virtual system to imitate a real system in reality [1]. It is a comprehensive integration technology that emerged in the 1980s. Due to its characteristics of immersion, interactivity, illusion and verisimilitude, as a supplement and extension of traditional teaching methods, virtual

simulation technology reflects unique application value in the teaching reform of colleges and universities [2].

To promote the application of virtual simulation technology in the field of teaching and research in colleges and universities, China has successively introduced lots of measures. In 2013, the Ministry of Education issued the "Notice about Carrying out National Virtual Simulation Experiment Teaching Center", clarifying that virtual simulation experiment teaching is an important content of higher education informatization construction and experiment teaching demonstration center construction [3]. From 2013 to 2015, the Ministry of Education approved the establishment of 300 national-level virtual simulation experiment teaching centers with demonstration and leading roles [4]. In 2017, the Ministry of Education issued the "Notice on the Construction of Demonstrative Virtual Simulation Experiment Teaching Projects from 2017 to 2020". From 2018 to 2020, the Ministry of Education identified a total of 728 national virtual simulation experiment teaching projects, and in 2021, it also identified 1,500 first-

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class courses in virtual simulation experiment teaching, to promote a new model of personalized, intelligent and ubiquitous experiment teaching of the "combination of virtuality and reality" [5].

As far as the major of financial management in private colleges and universities is concerned, the introduction of virtual simulation platform into practice teaching has good adaptability.

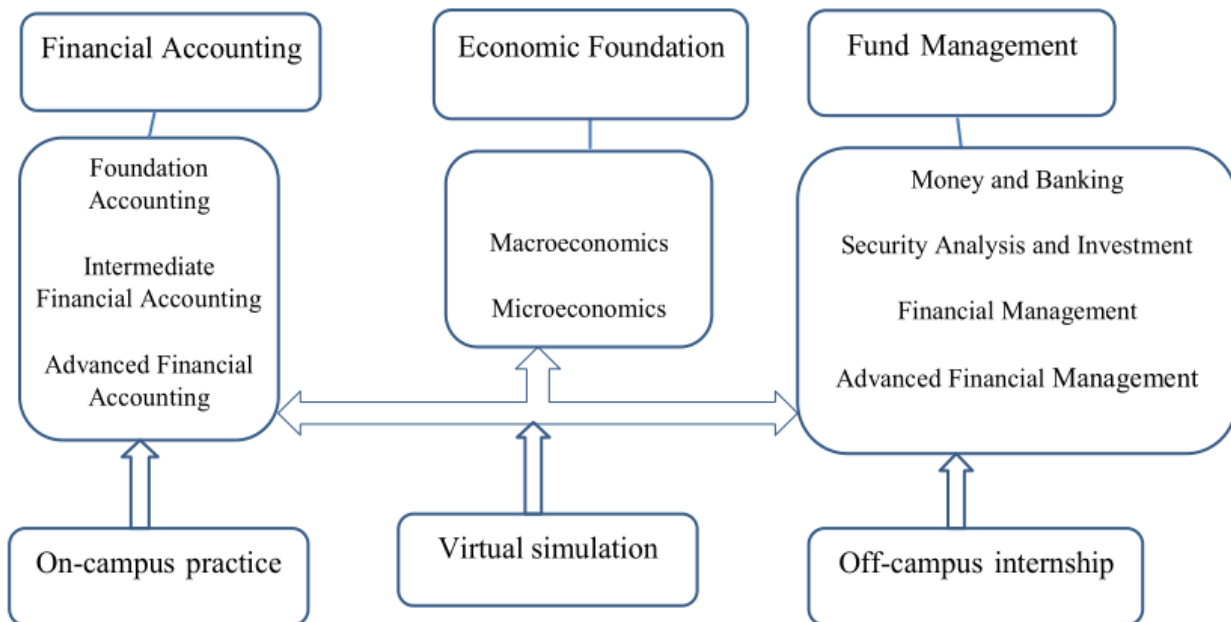


Figure 1. Adaptability of the virtual simulation practical training platform in the practice course of the financial management professional courses.

2.1. It Is Beneficial to Broaden Students' Practice Approaches

Taking the Modern College of Northwest University as an example, the professional courses of financial management can be divided into three categories: financial accounting, economic foundation and fund management (Fig. 1). The financial accounting category includes courses such as "Foundation Accounting", and the practice link can be solved through manual accounting, accounting computerization and other links. For other courses such as "Macroeconomics" in the economic foundation category and "Money and Banking" in the fund management category, it is difficult to complete the practice link within the school. For these courses, the relatively traditional way of practice is to establish off-campus internship bases. However, the practice or internship process is difficult to access substantive businesses due to reasons such as the involvement of trade secrets or the irreversibility of economic actions [6]. Compared with other practice approaches, the virtual simulation platform has a very wide range of adaptability, which can not only systematically simulate the basic process of macroeconomic operation and microscopic enterprise business

activities, but also distinguish specific businesses and different stages of simulation operations. After students have learned part of the business or the basic theory of a course, they can repeat the operation, try and fail, and deeply understand the actual process of business transactions.

2.2. It Helps to Improve Students' Abilities of Practice

A virtual simulation platform uses virtual simulation software developed by professional institutions to introduce the management norms, business processes, business activities, competition awareness, and job standards of economic entities into teaching, letting students participate in the economic operation process in a highly simulated environment with different identities, and helping students become familiar with basic business, understand basic principles, and clarify basic operations. Throughout the process, students are participants in economic activities, not bystanders. In the operation of the virtual simulation platform, teamwork is required to jointly operate a department or an enterprise, in order to cultivate students' abilities in teamwork, problem solving, application and innovation [7].

2.3. It Is Conducive to Reforming the Professional Training Mode

Compared with engineering and agricultural majors, virtual simulation platforms for economics and management, including financial management, don't require too many hardware facilities, and ordinary mobile phones or computer terminals can complete the corresponding practice links. The school only needs to upgrade the traditional computer room and implant the software into the computer system to meet the practice requirements of students. As shown in Fig. 2, the platform is suitable for different practice links, changing the teaching model of traditional economics and management courses in which teachers speak, students listen or discuss to a certain extent. Students of liberal arts can also achieve "doing in teaching, learning in doing", increasing students' sense of experience and gain, which can also help students participate in competitions, gradually establishing an innovative practice ability training mode of "combination of virtuality and reality, promoting education through competition, and promoting reform through competition".

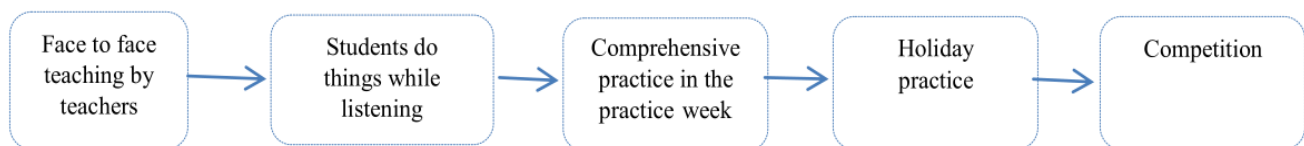


Figure 2. Introduction of virtual simulation platform in private colleges and universities and the change of training mode.

3. PRACTICAL EXPLORATION OF THE VIRTUAL SIMULATION PLATFORM IN PRIVATE COLLEGES AND UNIVERSITIES IN THE PRACTICE TEACHING OF THE FINANCIAL MANAGEMENT MAJOR

The financial management major is the traditional advantage major of the Modern College of Northwest University. After more than 10 years of development, the school has established a relatively complete practice system: the major has established a financial comprehensive laboratory, a financial manual laboratory and other laboratories and accounting firms, enterprises and public institutions and many other practice teaching bases. These supporting facilities play a fundamental role in completing the courses and professional practice of financial

2.4. It Is an Effective Way to Improve the Professional Quality of Students

Constrained by internal and external conditions, the practice link of liberal arts majors is the shortcoming of many private colleges and universities. The virtual simulation platform integrates artificial intelligence, big data, cloud computing, etc., and is a high-level simulation of future working environment, providing a convenient, practical and relatively cheap channel for students to practice. Through simulation exercises, students can truly understand how to use knowledge in books: What basic elements (people, raw materials, technology, equipment, and funds) are needed for the operation of enterprises? How should these elements be matched in terms of time and quantity? What are the adverse consequences if not matched properly? How is the product priced? Students no longer memorize definitions and theories mechanically, but become financial personnel, production managers, sales directors, etc., and organize tasks according to the ever-changing market situation. Otherwise, it will cause production stagnation, excessive inventory, business loss and even bankruptcy.

management. But over the years, the practice links of the courses of economic foundation and fund management have been troubling the teachers.

In 2018, the first "National College Economics Comprehensive Game Experiment Competition" was held. The competition platform virtualized a relatively complete macro- and micro-environment for enterprise operation. Several students as a group played different roles such as the government, steel mills, and power plants, released macroeconomic policies or bid for orders, loans, land, raw materials, labor and other factors of production, then organized production and delivered orders after completion. This competition platform provides a good way for the comprehensive practice of the knowledge of the courses "Macroeconomics" and "Microeconomics". Taking this competition as an opportunity, the virtual simulation platform officially enters the teaching process of financial management major.

On the basis of organizing a small number of students to participate in the competition, starting from 2019, the Modern College of Northwest University has cooperated with platform developer Chengdu JIECL Company to introduce the economics virtual simulation platform into the daily teaching process. Since the software can be used online through mobile APP or WeChat applet, it can achieve good connection with offline courses. In offline teaching, teachers strengthen the explanation of theoretical knowledge. In spare time, students complete the practice link of the corresponding business through online operations. After the content of a certain chapter, the students focus on the practice.

From 2020, virtual simulation platform training and competitions are introduced in many courses of the financial management major. At present, professional courses like "Macroeconomics", "Microeconomics", "Money and Banking", "Financial Management", "Finance", "Management", "Accounting" and "Financial Accounting" have introduced virtual simulation platforms. Starting from 2021, the practice week of each semester focuses on completing the comprehensive virtual simulation practical training for the corresponding courses of each grade in the current semester, and the online internship during the vacation increases the comprehensive application practice of multiple virtual simulation platforms. At present, the financial management major realizes the connection between professional courses and virtual simulation platforms and ensures that each course has a corresponding platform under the premise of necessity. In recent years, the financial management major has successively organized students to participate in the "National University Economic Decision-making Virtual Simulation Experiment Competition", the "National Undergraduate Group Accounting Professional Ability Competition", the "University Student Financial Decision-making Competition" and other events, and has won many first, second and third prizes in the national finals. In the next step, the financial management major plans to upgrade and transform the original financial management comprehensive laboratory, fully implant virtual simulation software, transfer the class location of some courses from the classroom to the laboratory, realize the teaching form of teaching while operating, adjust the teaching content and teaching method, and comprehensively improve the comprehensive practice teaching ability of financial management major.

4. PROBLEMS EXISTING IN THE APPLICATION OF THE VIRTUAL SIMULATION PLATFORM IN THE PRACTICE TEACHING OF THE FINANCIAL MANAGEMENT MAJOR

4.1. The Conception of Thinking Has Not Been Changed and the Investment Is Insufficient

Due to the limited sources of funds for private colleges and universities, teaching funds are relatively scarce, and traditional concepts believe that liberal arts majors basically do not need experimental equipment. Therefore, the overall investment in the experiment projects of financial management major is relatively little. The virtual simulation platform requires a lot of human, material and financial resources from research and development to maintenance and operation, and the system improvement cycle is long and costly. Compared with the projects of higher-level colleges and universities and the construction of "golden courses", many private colleges and universities only stay in the understanding stage of virtual simulation platforms, or try these platforms for free with the help of various competitions to help R&D enterprises to make trial and error corrections, failing to enter the stage of systematic research and use, and the funding investment is less and less.

4.2. The Connection With the Curriculum System Is Not Smooth

From the current practice, the use of virtual simulation platforms in private colleges and universities is forced through competitions. First, a very small number of students practiced by participating in the competition, and then concentrated on a certain course in the practice week arranged by the school. Class hour arrangement, practice organization, practice assessment, time arrangement, etc. are all random, and there is no overall planning and overall arrangement with theoretical courses and practice links. As a result, the breadth and depth of student participation is limited, and the practice effect is general.

4.3. The Professionalism of Teachers and the Enthusiasm of Students Need to Be Improved

For teachers in private colleges and universities, the introduction of virtual simulation platforms is still in its infancy, and most of them are not familiar with the platform's composition, operation principles, practice modules, and combination with theoretical course content. From the perspective of students, they fail to regard virtual simulation practice links as an important part of course learning, and their enthusiasm and initiative are not high. During the practice week and vacation practice, there are few students who are fully committed, and lots of them are fishing in troubled waters. Many students think that as long as the final exam is passed, the practice link is not important.

4.4. The Platform Stability and Adaptability Need to Be Improved

As mentioned above, affected by factors such as funding and teachers, the virtual simulation platform of private colleges and universities is mainly introduced from the market, and there is less independent development. Most of the platforms on the market are in the process of continuous improvement and perfection, the technology is not mature enough, and the stability is not good. On the other hand, because the platforms need to be sold in batches to the market, they have strong universality, but they may not be very appropriate to combine with the actual situation of the school, and cannot highlight the characteristics of the school.

5. MEASURES TO STRENGTHEN THE APPLICATION OF THE VIRTUAL SIMULATION PLATFORM IN THE PRACTICE TEACHING OF THE FINANCIAL MANAGEMENT MAJOR

5.1. Change Ideas and Increase Investment

Against the background of new liberal arts construction, schools must first change the ideological understanding of emphasizing theory but ignoring practice [8]. Schools must change their concepts, reform the indoctrination teaching model, cross the boundaries of theory and practice, build a virtual simulation experiment teaching module for liberal arts, and strengthen students' practical training link.

For most private colleges and universities, it is not realistic to develop and build virtual simulation platforms by themselves. Private colleges and universities can choose to introduce virtual simulation platforms by paying, which saves time and trouble. At the same time, they need to invest money to improve laboratory hardware facilities, equip professional management personnel, and improve the experimental environment.

5.2. Optimize the Curriculum System

The issues to be considered in the curriculum system optimization process include: Which courses need to be introduced into the virtual simulation platform? How to arrange the course content after the introduction of the virtual simulation platform? How to connect theoretical courses and practice courses? How to reasonably arrange course practice, professional practice and practice content? How to combine online and offline? ... [9]. In addition, the design and management of course assessment and practice assessment need to be reformed, for example, the practice assessment part should be added to the course assessment. In the process of revising the talent training plan, it is necessary to open up the practice teaching links required by the majors, consider comprehensively, and manage them in an integrated manner.

5.3. Improve Teachers' Professional Abilities and Mobilize Students' Enthusiasm

Schools should strengthen cooperation with enterprises, industry associations, technology companies, etc., and invite professional and technical personnel to strengthen training for teachers, to let teachers be familiar with control technology, platform principles, and platform content, and help teachers apply what they have learned. In response to the problem of low enthusiasm of students, schools must first establish an effective assessment mechanism. In courses that introduce virtual simulation platforms, part of the final grades must come from practical operations. Besides, teachers should strengthen process supervision and management, make full use of the power of class committees, reasonably group and divide labor, and let students with high initiative lead other students to complete practical tasks together. Finally, schools should focus on improving laboratory hardware and software facilities, provide a good environment, ensure that theoretical courses and practical courses are carried out synchronously, and ensure practice results.

5.4. Strengthen Cross-Border Cooperation

Teachers of professional courses should strengthen communication and cooperation with platform development companies [10], continuously improve the performance of the platform, and personalize the platform according to the actual situation of the students in the school to highlight the characteristics and requirements of the school.

6. CONCLUSION

The virtual simulation platform has good adaptability to the practical links of economic majors represented by financial management of private colleges and universities. It can broaden students' practical ways, improve students' practical ability, reform the professional training mode and improve students' professional quality under the premise of effective use of funds. Private colleges and universities should make full use of virtual simulation platform to better serve professional practice by changing ideas, increasing investment, optimizing curriculum system setting, improving teachers' professional ability, mobilizing students' enthusiasm, strengthening cross-border cooperation and so on.

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