Design and Implementation of Virtual Simulation Experiment Teaching of Innovation and Entrepreneurship for College Students

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Abstract. The implementation of innovation and entrepreneurship education in colleges and universities is a major way for college students to innovate and entrepreneurship education. Taking the virtual simulation comprehensive experiment platform of "General Mobilization for Entrepreneurship" as the carrier and taking the course of "Foundation of Entrepreneurship for College Students" as an example, there are some problems in the course, such as lack of system design, weak faculty, single educational content, backward teaching model and insufficient integration of specialization and innovation. Therefore, In order to perfect the curriculum system of innovation and entrepreneurship education with virtual simulation experiment platform as the core, it is proposed to combine experience teaching with entrepreneurial practice organically, adopt advanced teaching mode to play a good combination of classroom teaching and automation of course teaching data recording.

Keyword: virtual simulation · Experimental platform · College students entrepreneurial foundation · Curriculum construction

1 Introduce

Innovation and entrepreneurship are the root of national development and the soul of national rejuvenation [1]. As the forefront of innovation, colleges and universities should regard innovation and entrepreneurship education as a major task at present, continuously strengthen it, cultivate top-notch innovative talents, and make contributions to the implementation of innovation-driven development strategy [2]. In the process of implementing innovation and entrepreneurship teaching in universities, curriculum setting is the key to implement innovation and entrepreneurship teaching in universities. A series of policies and regulations related to innovation and entrepreneurship education, such as the Implementation Opinions on Deepening the reform of Innovation and Entrepreneurship Education in Institutions of higher Learning, Opinions on Vigorously promoting Innovation and Entrepreneurship education in Institutions of higher Learning and College students' self-employment, Notice on doing a good job in Employment and Entrepreneurship for Graduates of regular Institutions of higher Learning in 2016, are all under the guidance of this policy. It has been widely recognized. "Basic Skills of Entrepreneurship" in

© The Author(s) 2024
P. Qi and Z. Chen (Eds.): ICBDIE 2023, AISR 178, pp. 881–887, 2024.
https://doi.org/10.2991/978-94-6463-238-5_113

colleges and universities is a course of "basic skills of entrepreneurship" set up to cultivate entrepreneurial knowledge, entrepreneurial spirit and entrepreneurial ability. Since 2016, relevant research results on building basic courses of innovation and entrepreneurship in universities have shown a blowout growth trend, opening a new chapter for the research on innovation and entrepreneurship education [4]. However, in general, the "basic course of entrepreneurship" in universities has not been combined with real life, and its teaching quality cannot be guaranteed.

1.1 Lack of Systematic Planning for the Teaching Process

The Ministry of Education has launched a course on "innovation and entrepreneurship" for colleges and universities across the country. Some universities do not correctly understand the concept of innovation and entrepreneurship teaching reform as a small reform attended by a small number of teachers and students, it is a temporary measure to alleviate the current slow economic development, college graduates find it difficult to find a job and other problems, therefore, the establishment of innovation and entrepreneurship basic courses is simply to meet the needs of work. As a result, some universities do not systematically plan the setting of basic courses of entrepreneurship, which brings great difficulties to universities in course setting, teaching method and practice mode.

1.2 Lack of Teachers

The composition of college students' basic course of entrepreneurship teachers is relatively complex, including ideological and political guidance teachers of students, as well as special teaching teachers and management personnel of administrative departments. Because we have not implemented it for a long time, our teaching staff is relatively weak.

The practical experience of entrepreneurship. Although college teachers of specialized courses have high professional quality, they lack professional quality in innovation and entrepreneurship, practical experience in innovation and entrepreneurship, and cases in actual teaching are lacking for support, which seriously reduces the quality and effect of innovation and entrepreneurship education.

2 Construction of "Basic Skills of Entrepreneurship for College Students" by Taking Virtual Simulation Experiment as an Example

2.1 Attach Importance to the Combination of Theoretical Teaching and Practical Operation in Entrepreneurial Management

"Start-up Mobilization" is a brand new entrepreneurial training system developed by Betten Company, which covers almost all the relevant theories and practical operations needed for entrepreneurial training. Its contents include: cognitive entrepreneurial application, business model application, and entrepreneurial marketing comprehensive training.

Marketing strategy, marketing strategy, marketing plan implementation and management). On this platform, there are also some exquisite classroom training links and some interactive simulation scenes with simulation effects, which can make students feel the real entrepreneurial process personally, which is of great help to stimulate students' initiative and enthusiasm, and can transform passive learning into active learning. It provides a wide coverage, diversified forms and sound level of content support for schools to carry out innovation and entrepreneurship education.

2.2 Use the New Education Methods to Give Full Play to the "Combination" of Classroom Education

In the "post-epidemic period", it has become urgent to choose appropriate teaching methods to better carry out innovation and entrepreneurship education in the "post-epidemic period". "College students Entrepreneurship Basic" is a "classroom teaching + online teaching" as the main content of the comprehensive university. Based on the virtual simulation experiment platform of "Entrepreneurship Mobilization", the classroom teaching is carried out in accordance with modules, which organically integrates theoretical explanation and case analysis, group discussion and role experience, experience transfer and entrepreneurial practice, and pays attention to participatory, experiential, discussion-oriented and project-oriented teaching, giving full play to the "combination" of classroom teaching. Among them, many teaching modules are interactive entrepreneurial simulation games based on computer networks, which quickly transform the classroom teaching environment into an interesting and highly complex entrepreneurial environment, making students' learning lively, interesting, challenging and competitive at the same time.

2.3 Realize the Automatic Entry of Classroom Teaching Materials

The virtual simulation experiment platform of "Start-up Story" will automatically record students' experimental data and generate multi-dimensional analysis charts, which can help teachers better analyze and comment on teaching knowledge based on "quantitative analysis of experimental data" based on "live classroom cases" as the data source.

3 Application of "Introduction to Entrepreneurship of College Students" in Virtual Simulation Experiment

"Fundamentals of Entrepreneurship for College Students" of Sanjiang University takes "practical training + online teaching" as the main content, with 8 class hours as one class. With the help of the virtual simulation test platform of "Start-up Mobilization".

Fundamentals of Entrepreneurship for College Students consists of three main modules.

"Entrepreneurial Marketing Simulation Training," once per class, once per class, for eight months. "The Way of Marketing" is a competition item in the "Xuechuang Cup" National Entrepreneurship Simulation Competition for College students. Through the

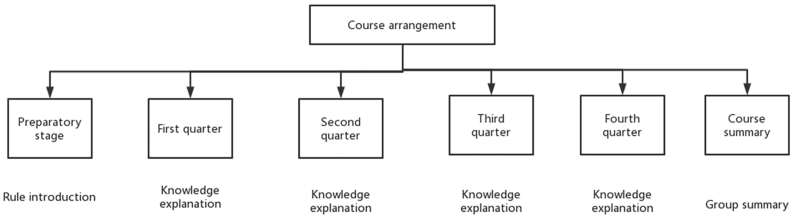

Fig. 1. Content design of entrepreneurial marketing comprehensive training project

study of this project, students master the basic knowledge of this project and take the initiative to participate in the competition, thus improving their operation and management level, enhancing their teamwork spirit, and enhancing their awareness of innovation and entrepreneurship. See Fig. 1.

4 Main Contents of the Virtual Simulation Network Center for Entrepreneurship and Operation

4.1 "Virtual into Real" Test Method

Virtual simulation experiment teaching can simulate the experimental environment which is not easy to realize, difficult to operate or requires too much equipment in reality, so as to provide a virtual experiment platform for students to carry out experiments which are difficult to carry out in reality. "Virtual combination" is the ultimate goal of virtual simulation experiment education, that is, virtual experiment cannot replace real experiment, let alone conduct virtual simulation experiment education on the basis of reality. Innovation and Entrepreneurship Virtual Simulation Experiment Teaching Center provides students with virtual simulation experiment teaching experiments. In actual situations, experiments that can be carried out do not need to carry out virtual experiments, which are based on reality and supplemented by virtual. The main types of virtual simulation experiments of innovation and entrepreneurship include entrepreneurial experiments, entrepreneurial management experiments, etc., which can let students with entrepreneurial ideas feel the process and fun of entrepreneurship. On this basis, various forms of online practical experiments are designed to make them closely related to the course content and enable students to further strengthen the theories they have learned. The integration of virtuality and reality, "real" refers to strengthening the theoretical knowledge of the course, "virtual" refers to the organic integration of different courses and real life, to cultivate the students' comprehensive application ability.

4.2 Administrative Functions of Local On-Line Enhance Administrative Efficiency

Based on the construction of virtual simulation experiment, some management functions are made online, which not only brings convenience to the laboratory administrators, teachers and students, but also improves the management efficiency. The course scheduling function of the online laboratory provides teachers with a fast platform for

course scheduling. Experimental classrooms can be selected online and students can be informed of the news of experiments, which guarantees the teaching work of teachers and facilitates the management work of administrators. The user personal center module displays the user personal information, experimental information and evaluation information. Users can query their own information quickly and conveniently, and administrators can manage the user information more efficiently and conveniently. For the user, you can watch the laboratory map online in real time, so as to have a clear understanding of the real-time condition of the laboratory, so that the user can make good use of the laboratory. For administrators, it can make the lab more manageable and reduce their workload.

5 Virtual Simulation Teaching of Entrepreneurial Management for Sustainable Development

5.1 Sustainable Development of Shared Areas and Number of Users

The virtual simulation experiment teaching Center for innovation and entrepreneurship has relatively low requirements for users to use the website and operate the experiment. Only computers and networks are needed to access the website and virtual simulation software, which reduces the sharing conditions to a certain extent, and can expand the sharing area and the number of people. The site can be accessed anywhere, anytime, anywhere. In order to improve the application frequency of virtual simulation experiments, efforts will be made to establish a mechanism of mutual recognition of grades and credit transfer among universities, strengthen the cooperation of grade transfer among universities, and provide students in need with the opportunity to obtain credits. To strengthen the training base and virtual simulation of innovation and entrepreneurship.

5.2 Sustainably Improve the Quantity and Quality of Virtual Trials

The interface of the virtual simulation experiment teaching Center for Innovation and Entrepreneurship has no restriction on the number of virtual simulation experiment software of the access website. As long as the virtual simulation experiment software has been reviewed by the experimental teachers and conforms to the teaching syllabus, it can be connected with the teaching center, so as to improve students' experience of various virtual simulation experiments and enhance user experience. Teaching center using the star rating, to expand evaluation survey for users, users just participated in the study, has the qualification evaluation. In addition, the teaching center is also equipped with a message module, the user can freely express their opinions. According to the score, the website will automatically produce an analysis chart on a regular basis. The administrator can put forward some constructive suggestions on the related functions of the virtual simulation software according to the score analysis chart. Only in this way can the experimental operation become more perfect and make it as close to the user as possible to meet the user's needs to the greatest extent. As shown in Fig. 2.

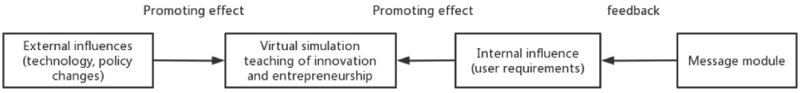

Fig. 2. Schematic diagram of factors affecting sustainable development

6 Conclusion

With the development of virtual simulation technology, online virtual simulation experiments have also been continuously developed in colleges and universities. Following the principle of "can be real, not virtual, combining virtual and real", realistic virtual simulation experiments of innovation and entrepreneurship have been constructed to cultivate students' innovation ability and provide students with a certain space for independent play. At the same time, It is also necessary to realize the sustainable development of virtual simulation teaching. According to the actual development situation, it is a continuous development process to realize the construction of innovation and entrepreneurship practice teaching and experimental teaching center.

Cooperative **Education Project of Ministry of Education:** Teaching Design and Practice of Virtual Simulation Experiment of Career Development and Innovation and Entrepreneurship Education for College Students (Project No.: 202101246033).

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