

Teaching Design of Enterprise Simulation Experiment Based on SCL

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Abstract—In the process of the economic and management undergraduate students' cultivation, there have always been troubles in the aspect of application, which are how to enhance the experience of the students to participate in the enterprise practice, and how to strengthen students understanding of business activities. The simulation teaching of enterprise management mainly depends on the computer software to simulate the actual operation and management process of the virtual enterprise. Based on the feasibility analysis of carrying out the enterprise operation simulation experiment teaching, the paper will carry out the experiment teaching design of enterprise management simulation of SCL(student-centred learning)from the four aspects, which are teaching objects, teaching contents, teaching methods and performance evaluation. And it will provide the teaching reference for carrying out the enterprise operation simulation experiment courses.

Keywords—Business simulation, Teaching design, SCL

I. INTRODUCTION

How to deal with and transcend the challenges of multinational companies, how to establish forward-looking enterprise strategy and adapt to the market's successful decision-making, how to train senior managers to quickly and effectively develop enterprise development strategy, so that enterprises in the chaos of the international commercial war successfully issued, which is placed in front of the enterprise to solve the major problems. In recent years, modern management science has made great use of computer simulation technology, after the quantification of the enterprise management aspects in complex environment and problems as much as possible, and then establish the causal relationship between these variables, hoping to through these changes to simulate the business environment and competitors response, to predict the future possible outcomes and through team work find the way to deal with. Such a system is called an enterprise operation simulation system^[1].

II. THE FEASIBILITY OF DEVELOPING BUSINESS SIMULATION EXPERIMENT TEACHING IN ECONOMICS AND MANAGEMENT SPECIALTY

In the course of the training of undergraduate students in economics and management, how to increase the students' experience and how to strengthen the students' understanding of the operation of enterprises has always been a dilemma. After completing the relevant theoretical knowledge of the

enterprise management, the senior students often need to go to the positions of the real enterprises (such as the marketing department, the production department, the finance department, the purchasing department, etc.), according to the professional training programs and internships. But the general business is not willing to accept the internship request of college students, because it will affect or even upset the normal production and business order, while enterprises also need to send some staff training to guide students, with the higher cost. Then, will students be able to practice business management on campus? The answer is yes, the business simulation system by introducing specific scenarios and data, allowing students to immerse themselves in the study, to make up some of the management class, especially in the experimental course, has a positive role to improve students' cognitive ability and business management skills^[2].

III. COMMONLY USED ENTERPRISE SIMULATION TEACHING EXPERIMENTAL PLATFORM

The simulation teaching of enterprise mainly simulates the real operation and management process of virtual enterprise by means of computer simulation software. At present, there are a variety of business management simulation software, and some schools with their own teaching experience for independent development, and some schools from professional software companies to buy ready-made software, such as: more commonly used ERP sandbox simulation software, Top-boss enterprise operating simulation software, Marketplace business simulation software, GMC competition software. No matter what the software for teaching, the basic content and process of teaching is basically the same, this case introduces the teaching design process of business simulation experimental platform in platform of Top-boss business simulation software^[3].

Our business simulation teaching is operated with Top-boss software platform. It is a business simulation of actual combat, which is the use of computer technology, network technology, simulation technology, combining the computer simulation system of expert knowledge base and multimedia technology developed. It can truly reproduce the reality of the business environment and almost the same, at the same time the relevant economic and management theory of knowledge to a proper extent into it to allow students to "learn by doing" approach to learning.

The Top-boss is organized by teams, each consisting 5-6 players, competing with several other companies (up to 10 companies) in the same market environment. Each group will operate its business under a unified economic environment and industrial background. The company's initial business and financial statements will be the same. Members of the group need to work together to analyze the internal and external information of the enterprise, analyze and calculate the possible combinations of the various resources of the company, and make the decision-making into the Top-boss decision-making system. After each group has entered the decision, the contestant (instructor) settles the results of the first phase of the competition, and the companies can immediately see the results of the company's operations and other competitors' performance on the client side. Then, reassess and analyze the various external conditions and the company's internal situation, and can purchase industry or competitor intelligence (intelligence function can be set to open or close) to be analyzed. Then enter the corresponding decision value, so repeated competition, until the number of periods (usually 8) is completed, which set by the host. Finally, according to the standard (such as the main industry of equity or net present value NPV), the teacher determine enterprise performance and decide the outcome, from the competition^[4].

activities. This experiment case teaching design mainly includes 4 aspects: teaching object, teaching content, teaching method and achievement evaluation.

A. Teaching object

Teaching objects: undergraduate students majoring in economics and management. Term of reference: 6 or 7 (at this time, the relevant professional courses are over). Prerequisites: theoretical courses such as computer foundation, business management, marketing, financial management, western economics, and strategic management.

B. Teaching content

As the business simulation process' continuity, it is better to adopt continuous class arrangement. It is suggested that the operation should be continuously simulated for 4 days, with 7 hours per day, with a total of 28 hours. Business simulation teaching process experienced 5 stages, including: the first phase of the preparatory work, the second stages of the introduction of the rule, the third stages of the company test operation, the fourth stages of the company combat confrontation, the fifth stage of the company business summary. Detailed teaching content and methods are shown in table I:

IV. DESIGN OF ENTERPRISE SIMULATION EXPERIMENT TEACHING BASED ON TOP - BOSS SOFTWARE PLATFORM

Experimental teaching design is the organization and arrangement of the basic links of the experimental teaching

TABLE I. ORGANIZATION OF THE TEACHING PROCESS

Teaching stage	Teaching content	Teaching method	Period distribution
Stage I	Prepare work: (1) grouping, each group of about 5-6 people, forming a company; (2) to introduce the teaching links and arrangements of this experiment; (3) the process of creating a company, including: ①to determine the company's name, trademark; ②employee job division; ③to determine the company's development goals	Traditional teachings and brainstorming	2
Stage II	Rule Description: The teacher explains the situation of the simulated enterprise, the rules of operation and the rules of evaluation.	The combination of traditional teaching method and role playing method	3
Stage III	Company trial operation: (1) students try to run business for 4 years, master the rules of operation, feel the business process and realize the company profit; (2) adhere to the "apply their knowledge" guiding principles, students can always ask the instructor, encounter any problems, in the course of business; (3) after the trial operation, the instructor commented on the performance of each company.	Student-centered learning(SCL)	4
Stage IV	Company combat: (1) each company carries on the actual combat, feels the enterprise management process and realizes the company profit diligently; (2) conduct 3 rounds of actual combat, each round for 8 years, about 40 minutes to submit a decision; (3) adhere to the guiding principle of "apply what you have learned", and ask any guidance instructor when you meet any problems in the course of business; (4) after each round of actual combat confrontation, each company is required to send an employee to the platform to discuss the problems, experiences and lessons learned in the management of the company; (5) the tutor should make comments and give reasonable suggestions according to each group's operation.	Student-centered learning(SCL)	18
Stage V	Business summary: (1) after the experiment, the instructor summarized the whole experiment process and made a comprehensive evaluation of the performance of each company; (2)students submit a business simulation test report, summarizing the problems encountered in the business simulation process,while summing up the real feelings after the experiment.	Traditional teaching method	1

C. Teaching method

According to the study of the pyramid theory, we found that: with ears to listen, the knowledge retention 5%; with eyes to read, knowledge retention 10%; audio-visual combination, knowledge retention 20%; with the demonstration approach, knowledge retention 30%; group discussion, knowledge retention 50%; practice, knowledge retention 75%; teaching each other, knowledge retention 90%. This shows that learning methods are different, learning effect is quite different. Therefore, teachers should learn to adjust or even change the way of teaching, students should strive to change learning methods, from passive to active learning. We should vigorously promote the actual operation and exercise and group cooperative learning, team members to discuss each other, to carry out students and other activities of students, in this way, students in the participation of knowledge, generate the ability to achieve the transformation from knowledge to ability.

First of all, the teacher explains the operating rules, management ideas and operating steps of the virtual enterprise, and introduces the basic knowledge of the enterprise management theory. Then, students experience the process of Create Company, play the role of each post of the company, understand the role of each post division of labor.

The students try to grasp the business rules, business enterprise, rational decision making, experience the whole process of enterprise management. Teachers guide students to operate. With the end of the operation, guiding teacher performance for each company's comments.

The experimental teaching process based on the enterprise life cycle as the main line, always takes the students as the center, using a variety of teaching methods and means, the practice of SCL teaching method. Through the SCL teaching method, the enthusiasm and initiative of the students are greatly strengthened, and the students' innovative ability, practical ability and market adaptability in the uncertain environment are trained and cultivated.

D. Performance evaluation

Performance evaluation is very important to the experimental class. In the process of performance evaluation, we should not only pay attention to the final business results of students, but also pay attention to the performance in the process of enterprise management. Therefore, performance appraisal can be divided into two aspects as the process assessment and result assessment. Process assessment includes normal attendance, classroom performance, panel presentations and team evaluation process; evaluation results include: business ranking and test report. Details of the assessment process and indicators are shown in table II^[5]:

TABLE II. EXPERIMENTAL RESULTS ASSESSMENT

Assessment link	Process assessment				Results assessment	
Corresponding weight	50% (50 points)				50% (50 points)	
Specific indicators	Usually attendance	Classroom performance	group speaks	Teamwork	Business ranking	Experimental report
Corresponding weight	30%	30%	20%	20%	70%	30%

E. The main achievements of enterprise simulation experiment teaching

By carrying out the business simulation experiment teaching, remarkable results have been achieved, which are embodied in the following aspects:

Enterprise management simulation experiment, from the beginning of 2008 in the Harbin University of Commerce comprehensive practice center opened, more than 4000 students of different majors internship and training in management practice center every year, eight years a total of more than 32000 students participate in the practice, the practice effect is good, has been highly recognized by all the students^[6].

Give full play to the experimental live teaching effect of the experiment, so that students experience the success and failure, but also experienced difficulties and risks, active classroom atmosphere to fully mobilize the initiative and enthusiasm of students to learn, free and independent learning space to cultivate students independent. Thinking, analyzing and solving problems, team work together to cultivate the team spirit of the students, effectively improve the teaching effect and teaching quality, so as to promote the realization of school personnel training objectives.

The results of enterprise simulation experiment teaching have been highly recognized by the society, and many times have been criticized by Heilongjiang TV, Harbin New Evening News, Heilongjiang Daily News and other media with the theme of university students practice to experience the real business warfare.

V. CONCLUSION

The entire experimental teaching process takes the enterprise life cycle as the main line, which includes the preliminary planning of the company, the establishment of the company, the organizational structure and division of posts, the trial operation of the company, the formal operation of the company, the conclusion of the company by the end of the year, etc., which allow students to experience real enterprises through virtual operation life cycle process. This experiment uses a variety of teaching methods and tools, The entire teaching process has always been student-centered, practice SCL teaching method, to guide students to participate in teaching activities, to promote student learning enthusiasm and initiative greatly enhanced. The performance evaluation index is diversified, and the evaluation system is more scientific and reasonable. It not only pays attention to the evaluation of business results, but also attaches importance to

the management and assessment of students' experimental processes.

ACKNOWLEDGMENT

This work is supported by Hei Longjiang Province Project(SYGY20170056), Harbin University of Commerce Teaching Reform and Teaching Research(HSDJY201704(Z)), Harbin University of Commerce Practice Teaching Reform and Research(SJXM2017B003).

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