

Research on the Model and Design of Experimental Teaching in Management Economics

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Abstract

As an innovative teaching method for management economics, experimental teaching in management economics is not only an effective means to change traditional "cramming" teaching, but also an important intermediary to achieve close connection between theoretical knowledge and enterprise practice. The goal of experimental teaching in management economics is to enable students to proficiently apply economic theory and related software to analyze and solve practical problems in enterprises through classroom simulation experiments. In the process of exploring and implementing experimental teaching in management economics, corresponding experimental modules can be designed according to needs, and the teaching mode should adopt the "autonomous classroom simulation experiment" mode. At the same time, it is necessary to pay attention to solving four key problems.

Keywords

Management Economics; Experimental Teaching; Classroom Simulation Experiment.

1. Introduction

Management economics is a discipline that studies how managers make decisions to maximize benefits when resources are limited. By combining the theoretical methods of management and economics, it aims to help managers better understand and apply economic principles for organization and management. It plays an important role in cultivating the business management concepts of students majoring in economic management and mastering the process and methods of enterprise economic decision-making under the market economy system. In the current teaching process of management economics, Chinese universities have bid farewell to the traditional education method of "blackboard+chalk" and replaced it with multimedia teaching. However, due to objective factors such as teaching location and time, the drawbacks of "cramming" teaching have never been overcome, with an excessive emphasis on teaching theoretical knowledge and neglecting the importance of students applying theory in practice. This teaching model goes against the nature of the course of management economics and is not conducive to improving the teaching effectiveness of management economics. Therefore, it is imperative to reform and innovate the teaching methods of management economics, and introducing experimental teaching into the teaching process of management economics is a positive exploration of innovating the teaching mode of management economics.

2. The Significance of Experimental Teaching in Management Economics

In recent years, the continuous development and improvement of experimental economics theory have made experimental teaching an important direction for economic teaching reform. The reason is that traditional teaching methods neglect the specific application of theory, overly emphasizing the one-way theoretical teaching of teachers and neglecting the practical

participation of students, resulting in a lack of enthusiasm for course learning among students, low theoretical application ability of students, and unsatisfactory teaching results. As an applied economics that closely connects theory with practice, it is necessary to actively introduce experimental teaching in order to effectively teach management economics. It has at least the following values.

2.1. Experimental Teaching of Management Economics is an Effective Means to Change Traditional "Cramming" Teaching

Duck feeding education was invented by Soviet educator Kalov, but due to factors such as insufficient education level and teaching staff in China's past, it has been widely used in Chinese universities. Duck feeding teaching goes against the objective laws of students' learning process and ignores their understanding ability and knowledge reserve level. It instills ready-made conclusions into students, and students rely on rote memorization to acquire knowledge. With the vigorous development of education in our country, the contradiction between the limitations of cramming education and the high-quality development of education in our country has become increasingly prominent. From a limited perspective, although cramming education imparts knowledge from teachers and textbooks to students in a relatively short period of time, it seriously hinders students' ability to think independently and learn independently, making it difficult for them to possess creative thinking. Currently, China emphasizes the long-term task of building a strong talent country in the new era and building a world important talent center. As a highland for talent cultivation, universities play a crucial role in cultivating efficient, innovative, applied, and skilled talents. However, from the current teaching of management economics in universities, it can be seen that the classroom is mainly led by teachers, and students passively listen, which is a typical "cramming style" teaching method. Objectively, it goes against the nature of the course of management economics and is difficult to achieve the important task of cultivating innovative talents for the country. Therefore, it is necessary to reform the current rote learning model, allowing students to take the lead in the classroom and strengthening their understanding and mastery of the course content; Enable students to practice firsthand and strengthen their understanding and application of course content. Therefore, introducing experimental teaching into the classroom of management economics teaching, breaking the limitations of traditional teaching methods, is an effective means to completely change the traditional "cramming" teaching, is an inevitable direction to achieve innovation in the teaching mode of management economics, and is an important link necessary for cultivating innovative talents.

2.2. Experimental Teaching of Management Economics is an Important Intermediary for Achieving Close Connection between Theoretical Knowledge and Practical Business Practices

Management economics is a course that emphasizes both theory and practice. By combining the basic theories of economics with mathematical analysis tools, it applies economic theories to the business decision-making of real enterprises. Its emergence and development have always been closely linked to reality. The addition of experimental teaching highlights the core idea of management economics in linking theory with practice. Through experimental teaching, the actual problems of enterprises are taken as the content of experimental teaching, so that students can be exposed to the real environment and problems faced by enterprises in the classroom. Various operating software further helps students immerse themselves, gradually adapting to the complex conditions and proficiently applying the learned economic theories to understand and solve the economic management decision-making problems of actual enterprises, and better mastering the enterprise in different market structures, Based on the development laws of the enterprise itself, make more scientific business management decisions and how to handle the unity of opposites between the enterprise and the market, cultivate and

improve the ability of students to analyze specific problems and make scientific decisions on economic management issues. In short, experimental teaching is an important intermediary for achieving close connection between theoretical knowledge and practical business practices. Therefore, introducing experimental teaching into the teaching classroom of management economics is an inevitable requirement and reform direction determined by the nature of the management economics course.

2.3. Experimental Teaching of Management Economics is an Effective Means of Cultivating Students' Practical Abilities

Social sciences tend to focus more on theory and overlook the importance of practice. Simply preaching theory does not provide students with a comprehensive understanding of the subjects they are studying. Traditional economics teaching presents such characteristics. The experimental teaching of management economics is centered on practice, and students can intuitively perceive and experience abstract theoretical knowledge through hands-on practice. This intuitive learning approach helps students to have a deeper understanding and memory of subject content, apply theoretical knowledge to practical operations, and efficiently consolidate the theoretical knowledge they learn in the classroom. Students are able to transform concepts and principles from books into practical phenomena and experimental results in experiments. By solving practical problems, students' problem-solving abilities are exercised, cultivating their critical thinking and innovation abilities. Therefore, the experimental teaching of management economics is fully in line with the current direction of economic reform, and it is of great significance for students to master economic theory and comprehensively understand the operation of enterprises by enhancing their practical abilities.

3. Design of Management Economics Experimental Teaching

3.1. Objectives of Management Economics Experimental Teaching

Based on the characteristics and teaching content arrangement of management economics experimental teaching, fully reflecting the purpose of management economics experimental teaching, the goal of management economics experimental teaching is determined as: to enable students to learn to use management economics theory to analyze and solve practical problems in enterprises through classroom simulation experiments, familiarize themselves with the basic process of enterprise management decision-making, and master the methods of enterprise management decision-making; Enable students to learn how to read and analyze market information through experimental processes, master theoretical and technical analysis methods of the market environment in which enterprises operate, and train their ability to analyze business management decisions.

3.2. Design of Management Economics Experimental Teaching

The management economics course experiment is planned to arrange one class hour per week (18 hours per semester) for experimental teaching guidance, which will be guided by the main lecturer of the management economics course; At the same time, to demonstrate the authenticity of simulation experiments, it is necessary to open the laboratory 24/7, so that students can conduct independent experiments anytime and anywhere. In the management economics course experiment, a virtual enterprise can be established for each student to simulate production, trading, and management online. By closely integrating teaching and scientific research, students can be greatly motivated to learn, promote their flexible application of economic theory, and improve their practical abilities.

According to the objectives of experimental teaching in management economics, the course of management economics can conduct the following six simulation experiments. Firstly, enterprise market information survey and analysis, 2 class hours. Enable students to learn how

to use the Internet information search function and offline field investigations, enhance their ability to collect, observe, and identify market information, and master the ways to conduct enterprise market research. Secondly, market positioning experiment for enterprise products or services, 4 hours. Conduct market research on a certain product or service both domestically and internationally through the Internet, and based on this, combine the specific conditions and operational data of the enterprise to make a correct positioning of the product or service market. Thirdly, the simulation experiment of enterprise market transactions lasts for 4 hours. Master the main methods and procedures for enterprises to correctly conduct product or service transactions in the market, and learn the methods and skills of market transaction decision-making during the transaction process. Fourthly, conduct simulation experiments on enterprise production execution for 4 hours. Understanding the procedures and steps of enterprise production, participating in the execution process of enterprise production, enables students to truly understand and master the specific steps and main problems that should be solved in the enterprise production process, strengthen production decision-making, optimize production costs, improve production efficiency, and achieve maximum enterprise benefits. Fifth, simulation experiment on enterprise risk resolution, 2 class hours. By identifying and handling the risks that enterprises may encounter in the production and operation process, students can understand the main methods for generating and solving enterprise risks, as well as the main procedures for risk avoidance, and understand the importance of enterprise risk avoidance. Sixth, simulation experiment analysis report, 2 class hours. Students will write a specific analysis report on production and transactions, as well as an overall analysis report on final operations, based on the operational status of the virtual enterprise they operate. In addition, in the experimental teaching of management economics, based on the differences in school facilities and teaching methods of guiding teachers, corresponding experimental teaching content of management economics should be designed from a practical perspective.

3.3. Steps of Management Economics Experimental Teaching

According to the characteristics of management economics experimental teaching, the experimental steps of management economics experimental teaching mainly include the following five steps.

(1) Experiments selected based on course content. Experiments should be based on economic theory, and the selection of experimental content must be based on the theory learned. The experimental content should be determined mainly from the modules designed above.

(2) Establish relevant experimental conditions, design the main methods and steps of the experiment, develop detailed experimental instructions to enable students to have a clear understanding of the entire experimental process, especially prepare a series of relevant data required for the experiment, and ensure the completeness of all matters to ensure the operability of experimental teaching.

(3) Conduct simulation experiments. This is a crucial step in the experimental teaching of management economics. According to the experimental steps established above, under the continuous guidance of the experimental teacher, use the management economics experimental platform to carry out the experiment in detail. It is worth noting that each student should be able to conduct experiments independently to ensure their independent learning and exploration abilities.

(4) Record the completed experimental data and organize the experimental results, paying attention to data storage. Encourage students to provide detailed descriptions and explorations of the entire simulation experiment in the form of experimental reports, deepening their understanding and application of theory

(5) Based on summarizing the positive and negative experiences, provide feedback and improvements. Communicate and negotiate between students and teachers on the entire

process of experimental teaching, summarize experimental experience, clarify improvement directions and measures in the experimental process, in order to improve the effectiveness of management economics experimental teaching, and achieve an effective cycle of teaching refinement and learning outcome evaluation.

4. The Mode of Experimental Teaching in Management Economics

The correct choice of experimental teaching mode is the key to achieving experimental teaching effectiveness. Based on the requirements of experimental teaching in management economics and the existing experimental teaching conditions in various universities, we believe that the experimental teaching in management economics should adopt the model of "autonomous classroom simulation experiments". Autonomous classroom simulation experiment refers to the construction of a network teaching system for "enterprise management decision-making operation platform", and the setting of simulation experiments in the above six sections. Students fully utilize computers to conduct experiments independently, create enterprise management scenarios, and encourage students to explore, discover, and solve problems independently. The specific implementation of this model includes two main stages.

4.1. Creation of Experimental Platform

The economic management experimental platform includes several parts, including online trading system, internal management system, supply chain and logistics management system, customer management system, etc. It covers the main workflow of real enterprises and can implement most of the business management decisions of enterprises. Considering the complex market environment faced by enterprises, it is necessary for teachers to be able to set up diverse market environments in simulation experiments, especially to timely supplement experimental data according to the requirements of management economics courses, so that the system can operate in complex market environment settings. Only such an experimental platform can accurately simulate the operational environment of real enterprises, and it is the true platform for teaching management economics experiments.

4.2. Students Conducting Independent Experiments

Student autonomous experiment refers to the process of students entering "management economics experiments" under the guidance of teachers, and independently completing "discovering problems - researching and experimenting (solving problems) - drawing conclusions (acquiring new knowledge) - applying - diverging and exploring". This encourages students to exert their subjective creative abilities and strive to form their own experimental design plans based on their existing knowledge and experience. The experimental steps can be repeated in learning, deepening students' understanding of relevant knowledge in a spiral upward trend. During the process of student independent experimentation, teachers should adhere to the spirit of individualized teaching and provide appropriate guidance and assistance to students in a timely manner based on their progress in participating in the experiment. This independent experimental teaching model helps students to practice firsthand, consciously absorb knowledge, avoid excessive intervention from teachers, and stimulate the high development of students' learning ability, exploratory spirit, and innovative consciousness.

5. Key Issues in Experimental Teaching of Management Economics

Although introducing experimental teaching into the teaching process of management economics is an effective means to innovate the teaching mode of management economics and improve the teaching effectiveness of management economics. However, the experimental teaching of management economics is a new exploration in the teaching of management economics, which has not been touched upon in previous teaching. Therefore, in order to

achieve the expected results of management economics experimental teaching, it is also necessary to pay attention to solving the following key issues in the process of exploring and implementing management economics experimental teaching.

5.1. Experimental Teaching of Management Economics is an Applied Teaching Approach that is Different from Theoretical Teaching

As a social science, management economics cannot explain economic phenomena and reveal operational laws of enterprises through strict control experiments like natural sciences. As Samuelson wrote in his "Economics," "One possible way to discover economic laws is through controllable experiments, but unfortunately, economists have difficulty controlling these important influencing factors, making it impossible to conduct experiments similar to those conducted by chemists or biologists." However, with the rise of experimental economics, it has become possible to systematically introduce experimental methods into economic research. Traditional theoretical teaching is limited to textbooks, which inevitably presents a dull and obscure side for students. The role of management economics experimental teaching is fully reflected in the fourth aspect, which stimulates students' interest in learning and applying economic theory. Therefore, the experimental teaching of management economics is different from the applied teaching of theoretical teaching. It is also important to recognize that it is an auxiliary method for innovative theoretical teaching models, which consolidates theoretical knowledge and extends practice. It cannot dominate and replace the important position of theoretical teaching.

5.2. Experimental Teaching of Management Economics is not a Case Study Teaching Method

Case teaching is an important means of practical teaching in management economics. Case teaching focuses on imparting knowledge through real-life examples or cases. The teaching content is usually presented through specific cases, and students gain knowledge and experience through analyzing cases and discussing problems. The main purpose is to cultivate students' ability to analyze and solve problems, improve their understanding and ability to respond to practical situations. Case teaching can be jointly completed through cooperation with relevant enterprises to enhance the practicality and applicability of case teaching. The experimental teaching of management economics focuses on providing students with hands-on experience and practical theoretical knowledge through practical operations. Students conduct experiments in laboratories or practical scenarios, consolidating and applying theoretical knowledge learned in the classroom through activities such as observation, measurement, and data collection. Its main purpose is to cultivate students' practical operation ability, experimental design ability, as well as their understanding and application of scientific methods. We cannot believe that with case teaching, it is equivalent to experimental teaching. Experimental teaching of management economics is a deeper teaching method based on case teaching. Experimental teaching of management economics requires specific cases for experimentation, breaking away from the traditional paper-based feature of case teaching and enabling students to have a deeper understanding of the importance of practical application of economic decision-making.

5.3. Sufficient Pre Class Preparation is Necessary for the Experimental Teaching of Management Economics

Firstly, the school should purchase or develop simulation decision-making experimental software related to management economics, so that the experiments of management economics courses can be carried out in the laboratory on campus. Secondly, in order to simplify the complex environment appropriately and facilitate teaching objectives, teachers should strictly control the experimental conditions to ensure the scientificity of the experiment. Thirdly, there

should be a clear experimental guidebook or manual. The software operation settings for managing economics experimental teaching are complex. In order to help students quickly familiarize themselves with the operation management system, before the experiment begins, teachers should refer to relevant experimental materials and combine them with the actual situation of management economics teaching in our school to develop a clear and clear experimental manual, helping students master the entire operation process in a short period of time and avoid losses caused by the operation. Fourthly, there should be an appropriate incentive system. An appropriate incentive system is an effective means to further stimulate students' interest in learning, fully mobilize their learning enthusiasm, and achieve ideal experimental results. Therefore, the experimental teaching of management economics requires corresponding funding and institutional guarantees.

5.4. Experimental Teaching of Management Economics Should Highlight Practicality

As a social science, management economics, compared to natural sciences, is difficult to translate into practical applications due to its abstract and theoretical characteristics, which makes social science research appear relatively distant in solving real-world problems. At the same time, social science research also appears to be less flexible in responding to rapidly developing and changing social issues. It is precisely under the premise that pure theory cannot be effectively transformed into practical productivity that the limitations of social sciences are realized. The experimental teaching of management economics needs to actively explore and use scientific methods, computer operating systems, and software to increase the empirical nature of social science research. Quantitative and quantitative research methods are used to calculate more comprehensive data and help researchers better understand social phenomena. This method can provide more specific data and statistical analysis, making the research results more easily applicable to practical situations. Ensure that management economics not only stays at the theoretical level, but also provides practical support and guidance for solving enterprise development problems.

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References

- [1] Song Yun, Mao Yunshi. On the Status of Management Economics in Business Administration [J]. Higher Education Forum, 2017 (10).
- [2] Zhang Xiaodong, He Pan. Problems and Solutions in Teaching Management Economics [J]. New Curriculum Research, 2011 (2).
- [3] Yuan Changhong, Yu Jianhua. How to improve the teaching effectiveness and efficiency of the EMBA "Management Economics" course [J]. Chinese University Teaching, 2012 (10).
- [4] Weng Yingying. Exploration and research on practical teaching methods for management economics courses [J]. Heilongjiang Science and Technology Information, 2009 (3).
- [5] Liu Wenyan, Tong Jiying. Exploration of the Application of Experimental Teaching Method in Western Economics China Paper Download Center, June 14, 2009.
- [6] Research Group. Six Major Experiments Changing Traditional "cramming" Teaching - Effective Experimental Teaching in 2009 National Excellent Course and International Trade Journal of Shandong University [J]. Textbook Weekly Online Edition, 2009 (12).

- [7] Zhu Xiaobo. Direction, Content, and Method: Research on Ideological and Political Practice in Management Economics Course [J]. Modern Commerce and Industry, 2023,44 (09): 197-199.
- [8] Li Wenshan. Discussion on the Significance and Application Prospects of Management Economics in Enterprise Management [J]. Modern Enterprise, 2022 (08): 101-103.
- [9] Wang Guangyao. Quantitative Analysis of Case Teaching Graph Based on CiteSpace and Discussion on the Application of Case Teaching Method in Management Economics [J]. Curriculum Education Research, 2019 (31): 228-230.
- [10] Han Xiufeng, Wang Li, Guo Chunsheng. Exploring the Problems and Countermeasures of Practical Education in Higher Education Institutions [J]. Journal of Higher Education, 2023,9 (13): 163-166.
- [11] Cao Haitao, Wei Qin. Design of Learning Effectiveness Evaluation Mechanism Based on AOL Standard in AACSB Certification: Taking Management Economics Course as an Example [J]. Modern Vocational Education, 2023 (15): 109-112.