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Exploration on the Comprehensive Ability Training Method of Computer Major in Finance and Economics Colleges from the Perspective of "Innovation and Entrepreneurship"

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Abstract: Carrying out innovation and entrepreneurship education in colleges and universities is not only the implementation of the government's policy of "building an innovative country", but also an important measure to promote employment and reform of colleges and universities through entrepreneurship. At present, the teaching goal of computer major in financial and economic colleges is not clear enough, and the training of computer and financial management knowledge has one advantage over the other. From the perspective of "innovation and entrepreneurship", this paper improves the practical teaching mode in the teaching process, and constructs the comprehensive ability training mode of computer specialty which is suitable for the talent training standard of financial and economic colleges, which has important practical significance for its own development, and also provides ideas for the reform of the comprehensive ability training mode of computer specialty in similar universities.

1. Introduction

Computer teaching in financial and economic colleges plays an important basic role. After entering the 21st century, the emergence and widespread use of a large number of financial software has gradually changed people's financial life style, which requires financial and economic colleges to pay more attention to computer teaching and strengthen students' computer operation ability [1]. As far as computer science teaching is concerned, under the background of "internet plus", it is required that discipline teaching should pay attention to the cultivation of students' comprehensive ability and break through the shackles of traditional teaching system. Through the practice of "innovation and entrepreneurship" course, students can gradually master new computer technology and Internet technology, so that students can not only have basic discipline knowledge, but also have the ability to use discipline knowledge.

2. Comprehensive Ability of Computer Major in Financial and Economic Colleges

Most graduates of computer science in financial and economic colleges are engaged in IT work in financial and management fields, such as banking, securities, insurance, consulting, IT companies, institutions and government departments. The comprehensive ability of computer specialty required by these jobs can be divided into the following five aspects.

(1)Computational thinking ability [2-3]: formalization, modeling description, abstract thinking and logical thinking ability. Before solving a problem by computer, the processing logic and methods needed to solve this problem have been formed in the minds of programmers.

(2)Ability of algorithm design and analysis: establish system model, decompose problem solving steps, analyze and optimize algorithm complexity.

(3)Program design and realization ability: solve problems, design program execution process, and realize it with software or hardware.

(4)Ability of system analysis, development and application: Look at problems from the overall situation of the system, analyze and solve problems with software engineering methods, and realize system-level optimization.

(5)Understanding ability of financial system: master the basic theories and methods of economy and finance, and deeply understand the operation process of financial system, especially the operation principle of IT system.

The basic concept of the discipline involves two fields: computer and finance. Among them, the important concepts of computer science are: time sorting, spatial sorting, complexity analysis, security, consistency and completeness, reuse and so on; The important concepts of finance and economics are: scarcity, opportunity cost, fairness and so on; The common concepts of the two disciplines are: problem abstraction, efficiency, hierarchical structure, compromise strategy, formal model, evolution and so on. Understanding and mastering these common concepts from different angles is of far-reaching significance to the comprehensive ability training of computer and finance.

3. Definition of the Concept of “Innovation and Entrepreneurship” Education

“Innovation and entrepreneurship education” is mainly to cultivate students' awareness of innovation and entrepreneurship and improve their comprehensive ability. Innovative education is an education whose basic value orientation is to cultivate people's innovative spirit and ability. Innovative education is mainly to cultivate innovative consciousness, create teaching atmosphere, train innovative thinking and cultivate innovative ability [4]. Entrepreneurship is a process of discovering and capturing opportunities and creating novel products and services or realizing their potential value. There is no clear definition of entrepreneurship education in academic circles. Entrepreneurship education can be said to be a new concept of educating students. It is different from the previous school-enterprise cooperation or students' enterprise practice. It is a kind of training students to find opportunities and actively and creatively solve problems.

The “innovative and entrepreneurial” talents of computer science in financial colleges and universities put forward in this paper refer to the computer talents of financial colleges and universities who have basic computer knowledge and skills, can adapt to the pace of the information age of the ever-changing technological update, have the ability of autonomous learning, and have the ability of innovation and entrepreneurship in all aspects of computer technology.

4. Problems in the Teaching of “Innovation and Entrepreneurship” for Computer Majors in Financial and Economic Colleges

4.1 The Educational Model is Backward

Many colleges and universities gradually realize the importance of the integration of “internet

plus" professional education and "innovation and entrepreneurship" teaching practice. However, in the specific implementation process, the education mode is relatively backward, and some financial and economic colleges have not even introduced the professional education mode of "internet plus" into teaching, but still adopt the traditional teaching mode, which seriously hinders the practice of "innovation and entrepreneurship".

In addition, in the teaching of "innovation and entrepreneurship", some financial and economic colleges adopt the teaching mode of professional elective courses, entrepreneurship competition and practical courses. The development of this teaching mode is still immature, and in the actual teaching process, the traditional teaching mode is still the main one, resulting in the lack of integrity and practicality in the teaching of "innovation and entrepreneurship".

4.2 Lack of Teaching Resources

At present, in some financial and economic colleges, teachers who are engaged in the practice of "innovation and entrepreneurship" courses often come from professional fields and undertake the teaching tasks of professional courses. Although they have high professional teaching ability and scientific research ability, this long-term fixed professional teaching and exploration makes teachers unable to play their guiding role in the teaching practice of "innovation and entrepreneurship", which makes the practicality of innovation and entrepreneurship activities insufficient.

Taking computer majors as an example, the rapid development of computer technology makes the computer field face complexity and variability. Even full-time teachers with rich teaching experience sometimes find it difficult to grasp the law of market changes. In addition, these professional teachers have long focused on discipline teaching and lack practical experience in entrepreneurship, which can not play an important guiding role for students in the teaching process of "innovation and entrepreneurship" [5]. Therefore, the lack of teaching resources is an important factor affecting the popularization of teaching practice of "innovation and entrepreneurship".

4.3 The Teaching System is Imperfect

Although some financial and economic colleges have gradually formulated the training programs for innovative and entrepreneurial talents, they often need to formulate different implementation strategies due to professional differences. In the specific implementation process, there are many similar contents in the teaching practice of "innovation and entrepreneurship" of various majors, and the defects and loopholes in the teaching system have affected the implementation results. As far as computer majors in financial and economic colleges are concerned, their teaching system pays too much attention to the study of basic subject knowledge, which is not conducive to the cultivation of students' comprehensive ability.

5. Cultivation of Comprehensive Ability of Computer Major in Financial and Economic Colleges from the Perspective of "Innovation and Entrepreneurship"

5.1 Construction of Practical Teaching Mode

Practical teaching course and its content system are the core and key of practical teaching, the main foothold of integrated innovation of the whole practical teaching system, and the fundamental guarantee that determines the success or failure of the whole system. According to the characteristics of knowledge of finance and economics and the special requirements of practical application, this study tentatively envisages to build a practical teaching system of "one main line, four levels and two extensions" to realize the construction of an integrated practical teaching mode

of extension, docking and integration in our school [6]. One main line refers to the construction of functional and modular experimental teaching system with enterprise factor resource management as the logical reference line; Four levels refer to the construction of experimental teaching curriculum (project) system with four levels: basic experiment, comprehensive experiment, innovative design experiment and employment and entrepreneurship experiment. Two extensions refer to extending the connotation and extension of experimental teaching content to classroom teaching and social practice respectively.

One main line: according to the thinking of "big management, big process, big span, high simulation, interdisciplinary integration", taking enterprise factor resource management as the logical main line, taking the real process of social business operation as a reference, on the basis of analyzing the internal and external factor resource management of enterprise production and operation, the practical teaching contents of economics and management are functionally deconstructed and modularized.

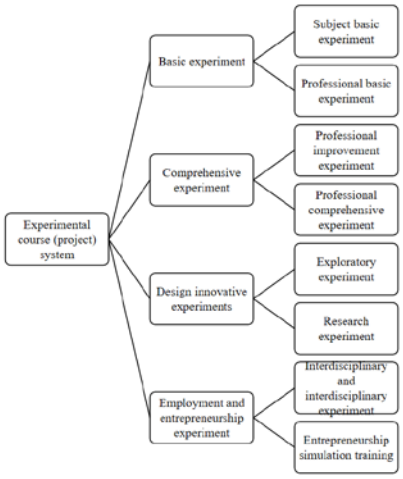

Fig.1 Hierarchical System of Experimental Teaching Content

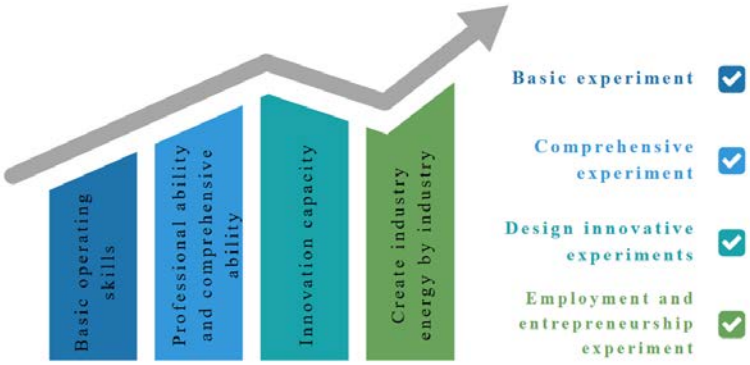

Fig.2 The Goal System of Progressive Talent Training is Matched with the Content System of Progressive Experimental Teaching

Four levels: four levels of experimental teaching curriculum (project) system (see Figure 1 and Figure 2) are constructed based on the four-year practical teaching of undergraduates as a whole, according to the goal of talent cultivation ability level subdivision, from shallow to deep, step by step, to expand the training space of students' practical ability in an all-round way.

5.2 Reform in the Assessment Mode

As an undergraduate university that trains applied innovative talents, it is necessary to explore a set of assessment mode that conforms to professional characteristics, so as to test the learning effect and promote the cultivation of innovative and entrepreneurial talents. The traditional closed-book examination has certain contingency, which can not objectively and correctly evaluate students' ability level, and has little guiding effect on students' comprehensive ability investigation [7]. Therefore, it is particularly urgent to reform the examination of computer courses, especially the highly practical programming courses.

The usual assessment pays attention to students' learning process, which is an important means to enhance and improve teaching effect, especially to strengthen students' interactive assessment in class, which is an important way to cultivate students' independent thinking ability, and also the requirement of innovation and entrepreneurship. In addition, we can link the practical examination of some courses of computer specialty with the national examination to realize credit replacement. For example, in the C language course of university, if a student passes the national C language class II examination, it will be deemed that the student's C language course practice examination is qualified and converted into the corresponding final exam scores according to his examination scores. Strengthening the examination of practice links is to cultivate and increase students' practical and comprehensive abilities.

Increasing practical assessment not only trains students' practical ability, but also achieves the purpose of applying what they have learned and arouses students' interest in learning. Interview assessment is the best way to reflect students' level. Interview assessment not only requires students to have comprehensive quality of the subject, but also can cultivate students' communication ability, which is conducive to the formation of students' comprehensive ability.

5.3 Constructing the Teaching Team of “Innovation and Entrepreneurship”

Innovation and entrepreneurship education is a comprehensive subject, which requires “innovation and entrepreneurship” teachers to have both solid theoretical foundation and practical experience. The construction of “innovative and entrepreneurial” teachers depends largely on the external environment, and schools need to provide teachers with a good and relaxed development platform and environment. At the same time, schools should introduce and cultivate innovative and entrepreneurial teachers simultaneously.

On the one hand, financial and economic colleges should base themselves on financial and economic colleges and take more measures to train their in-service teachers. For example, through the special training of “Innovation and Entrepreneurship”, or encouraging teachers to take part-time training in enterprises, teachers can personally feel the operation, management and development of enterprises and increase practical experience. On the other hand, the state should introduce corresponding encouraging policies or raise teachers' salaries to attract outstanding talents from computer enterprises to enter the education industry. At the same time, schools should appropriately lower the academic threshold and actively introduce excellent enterprise talents.

5.4 Curriculum System Construction

The construction of computer professional curriculum system should first consider the core knowledge system requirements of computer discipline, and secondly, it should take into account the set characteristic professional direction, the development of computer technology and the demand of social talents.

Main courses should be aimed at specific majors, supplement important professional knowledge and form a complete professional knowledge system. Software engineering majors should set up major courses such as software architecture, system analysis and design, human-computer

interaction technology, software testing and software project management for large-scale software design and development.

In order to meet the specific needs of society for professional knowledge and technical structure, it is also necessary to supplement characteristic professional courses appropriately to form a complete professional knowledge system that meets the needs of society. For example, in the specialty of computer network application development, courses such as system analysis and design, Web application development, distributed computing, and massive information processing can be added to the main courses. Computer network security specialty can add courses such as cryptography, information security and network protocol analysis. Courses such as network testing and management, network planning and design, and next-generation Internet technology can be added to the specialty of network planning and design.

6. Conclusion

Computer teaching in financial and economic colleges is responsible for improving students' computer operation ability. The education of “innovation and entrepreneurship” in financial and economic colleges is a process of coordinating and promoting each other from top to bottom. If the supervision of higher authorities is not in place and the implementation of the school is not in place, the education of “innovation and entrepreneurship” will become superficial. Colleges and universities should make full use of superior policies, and at the same time, make the education work of “innovation and entrepreneurship” implement. All kinds of guarantees are in place (such as organization, system, tutor, capital and atmosphere), and teachers are encouraged to actively participate in order to guide students to actively participate. Under the background of “innovation and entrepreneurship”, application-oriented universities should reform the curriculum education system, strengthen practical teaching, reform and innovate the assessment mode, and improve students' comprehensive ability in an all-round way according to their own position, combined with the characteristics of their majors.

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