

Research on Effective Integration of Innovative Ability and Professional Knowledge of Management Major Based on CKPI Model

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Abstract: *Carrying out innovation and entrepreneurship education in undergraduate colleges is not only a way to meet the diversified and personalized needs of the society for talents, but also an inevitable trend of high-quality development of China's higher education reform. Based on the complementary perspective of innovation education and professional education, this paper studied the effective integration of innovation ability and professional knowledge. Starting from the training objectives of innovation talents, we reasonably determined the requirements of the knowledge and ability for innovation talents. By analyzing the principle problems in undergraduate professional education, we proposed an advanced talent training model of "Consciousness, Knowledge, Practice, and Innovation", i.e., CKPI model. Following the ways of curriculum system design, professional education methods innovation, and integration of professional education resources, this paper also provided a talent training path of the innovation ability with professional knowledge.*

Keywords: *innovative ability, professional knowledge, CKPI model, effective integration*

1. Introduction

Under the background of "Accelerating the Implementation of Development Strategy Driven by Innovation" proposed by the 20th National Congress of the Communist Party of China, the cultivation of innovative and entrepreneurial talents has become an important task of the education in China's colleges and universities during the "14th-Five Plan" period [1]. However, at present, innovation and entrepreneurship education in China is disconnected from the professional education. The curriculum structure and teaching system of the innovation education and the professional education are independent, which is not conducive to the students' activities of innovation and entrepreneurship based on professional knowledge. Innovation and entrepreneurship are composed of creative activities based on technological innovation, management innovation, organizational innovation, business model innovation, marketing innovation, etc., covering a wealth of knowledge and capabilities in the field of management [2]. Therefore, it is particularly important to deeply integrate the management knowledge with innovation education, and further cultivate the innovative talents of management major.

2. Objectives, requirements and problems

2.1 Training objectives

Taking account of the characteristics of the management major, the training objectives of innovation and entrepreneurship talents can be summarized as: (I) To have the accomplishment of the basic economic and management theory, the systematical professionalism of the modern economic management theory, and the professional knowledge and basic skills; (II) To be familiar with the guidelines, policies and regulations of China's enterprise operation; (III) To master the process and methods of enterprise establishment and operation, having the basic quality and ability of entrepreneurs; (IV) To be the creative management talents who have a certain sense of innovation and entrepreneurial ability, and can actively combine their professional expertise and hobbies in the future career development; (V) To be willing to constantly explore and innovate, be able to create new jobs, and be good at promoting the enterprise development and social progress [3].

In the process of undergraduate education, it is necessary to straighten out the relationship between professional knowledge and innovation ability [4]. On the basis of the clear talent training objectives, it is suggested to build a knowledge structure system of innovation and entrepreneurship with management professional knowledge as the core. By innovating the methods and means of professional knowledge education, and integrating the education resources of professional knowledge, the realization of the training objectives of innovation and entrepreneurship talents can be ensured.

Guided by the concept of "Learning-Output", it is suggested to design the curriculum teaching based on some novel models, such as theoretical teaching, industry hot-spot discussion, online and practical link-teaching, and then apply it to the real teaching activities of management courses. In addition, a teaching evaluation system to continuously evaluate students' learning interest and motivation, with innovative thinking and ability, should be built. By evaluating the students' learning achievement, continuous improvement and perfection of the designed curriculums should be made accordingly.

2.2 Basic requirements

In order to deeply integrate the management knowledge with innovation and entrepreneurship education, the requirements for teachers' ability are stricter: (I) In the design stage of curriculum system, the deep integration of innovation and entrepreneurship education and professional knowledge should be fully considered. The education processes should be arranged reasonably from simple to deep, which helps students to systematically master the knowledge and ability of innovation and entrepreneurship step by step; (II) In terms of methods and means of professional education, the deep integration of innovation and entrepreneurship education and professional knowledge should be reflected. In the teaching process, the combination of classroom learning and after-school training needs to be focused; (III) During the collection of professional education resources, the deep integration of innovation and entrepreneurship education and professional knowledge should be particularly concerned. It is suggested to ensure the concordance of professional education with enterprise and industry development, and fuse the innovation and entrepreneurship education into the industrial development environment; (IV) As the teaching of management major changes from "knowledge concept" to "extension hotspot" and from "understanding and memorizing" to "divergent exploration", the corresponding teaching and practice links should be well designed and effectively implemented.

At the same time, according to the goal of training innovative and entrepreneurial talents in management major, the requirements for students' knowledge and ability are more detailed: (I) Having a healthy body and good humanistic quality, integrating the comprehensive and harmonious development of morality and intelligence with healthy personality; being able to understand and abide by professional ethics and norms in enterprise management practice, and taking their responsibilities; (II) Having certain literacy of economic and management theory, mastering the system theory of modern management; having professional knowledge and basic skills in enterprise strategic management, human resource management, financial management and marketing, being able to adapt to the development of modern enterprise management, and being capable of analyzing and solving the practical problems; (III) Being familiar with the operation mechanism, policies and regulations of Chinese enterprises, mastering the basic methods and skills of establishing and operating enterprises, and being able to fit into the team in the professional field and playing an effective role; having the sense, spirit, purpose and ability of innovation, and mastering the basic skills and methods to complete innovation tasks and achieve the set goals; (IV) Having the awareness of independent learning and lifelong learning; having the ability to continuously learn, innovate and adapt to social development; continuing to study in professional fields, and having the ability to promote the enterprise development and social progress.

2.3 Existing problems

In recent years, many application-oriented undergraduate colleges have established the innovation and entrepreneurship centers, students' entrepreneurship parks, tutor workshops for innovation and entrepreneurship, and other institutions dedicated to innovation and entrepreneurship education [5]. However, it can be seen from the survey that most application-oriented undergraduate colleges do not take advantage of abundant professional knowledge when exploring the path of innovation and entrepreneurship education. Especially, in terms of cultural atmosphere, curriculum system, practice platform and so on, the two education systems have little intersection, which can't play a positive role

in promoting the linkage effect of the two systems [6].

The main reasons are as follows:

(1) The cultural atmosphere of the integration of innovation ability and professional knowledge has not been fully formed. The educational reform of most application-oriented undergraduate colleges adopts the methods of “work-study” interaction, “school-enterprise” cooperation, and “order-training” talents. The integration of innovation ability and professional knowledge is relatively lacking, which leads to the weak innovation awareness of students in school. It also makes the students unable to use innovative thinking to solve the problems, and unable to better realize the complementarity of innovation and entrepreneurship knowledge and professional knowledge.

(2) The curriculum system integrating innovation ability with professional knowledge has not been completely established. Scientific and reasonable curriculum is the basis for the integration of innovation ability and professional education. At this stage, the curriculum of application-oriented undergraduate colleges is mainly about adding several courses of innovation and entrepreneurship to professional classes. However, most colleges have not yet established a satisfactory curriculum system integrating innovation and entrepreneurship education with professional education.

(3) The practice platform for the integration of innovation ability and professional knowledge has not been fully established. In the integration of innovation and entrepreneurship education and professional education, using industry resources, such as the alumni and the cooperative enterprises, to establish a practice platform, is conducive to inspire the students' motivation for innovation and entrepreneurship in social activities. However, in the educational reform of most application-oriented undergraduate colleges, attention is only paid to the construction of laboratories which can meet the implementation of the talent training programs from professional disciplines, while little attention is paid to the combination of students' practice or internship. It is difficult to cultivate the students' ability of knowledge fusion, innovative thinking and entrepreneurial awareness.

3. Design for teaching pattern

3.1 CKPI model

In order to solve the above problems and improve the effective integration of innovation ability and professional knowledge in management major, it is urgent to reform and innovate the current teaching mode. It is well known that knowledge learning and ability training must follow the rule of gradual progress, which also obeys to the regulation as “from simple to deep”. On the basis of the in-depth analysis of the knowledge and ability which is necessary for management innovation and entrepreneurship talents, this paper has proposed an advanced talent training model, which is called CKPI (i.e., Consciousness, Knowledge, Practice, and Innovation).

Consciousness: It refers to the courage to put forward new ideas and new methods on the existing thinking mode. At this stage, by tapping the hot industry directions related to the curriculum, it is suggested to sow the seeds of innovation and entrepreneurship awareness. So that, the students can have a clear understanding of the concept of innovation and entrepreneurship, and enhance the awareness and perception of innovation and entrepreneurship. By this way, the students are guided to gradually understand the process of innovation and entrepreneurship.

Knowledge: It refers to make the systematic professional teaching for the students to master the professional knowledge and ability necessary for innovation education through in-class and extra-class exploration. At this stage, it focuses on trying to teach the students the compound knowledge system based on the professional core knowledge, so that students are able to grasp the necessary professional knowledge reserved to carry out innovation and entrepreneurship activities.

Practice: It refers to the ability to apply the learned professional knowledge to practice. At this stage, it is suggested to focus on transforming the theoretical knowledge into practical skills through various practical activities. It is also helpful to guide the students to carry out the preliminary innovation and entrepreneurship practices and deepen their understanding of the professional knowledge they have learned.

Innovation: It refers to the ability of students to carry out the entrepreneurial activities based on the real needs of society, on the training of the professional knowledge and innovation ability. According to their personal gifts and strengths, they are actively willing to keep on independent learning and

continuous innovation in the process of entrepreneurship, to promote the sustainable development of enterprises.

3.2 Executive ways

(1) In the period of teaching design, we should fully understand and analyze the traditional teaching mode, teaching scheme, and teaching syllabus of "classroom knowledge". On this basis, the advantages of traditional teaching are retained and inherited from the perspective of CKPI mode, and also the shortcomings are modified and improved accordingly. Based on the construction of the plan, the roadmap and the node timing for teaching innovation and reformation under CKPI mode, the teaching syllabus based on CKPI concept is detailly formed. When carry out the real teaching activities of management major, it is also very important to organize the teaching supervisors and education experts to evaluate the teaching with CKPI mode. What's more, the new syllabus should be revised and improved according to the feedback of experts and the evaluation of students' learning achievements.

(2) During the teaching process, we should adhere to the combination of in-school learning and after-school training. The core goal of in-school learning is to cultivate the initial spirit of innovation and the necessary reservation of professional knowledge, and take the students as the center in the teaching processes. In addition, through group discussion, case analysis, classroom debate, role play, classroom sharing and other classroom flipping ways, students are encouraged to think positively and stimulate their internal learning enthusiasm and motivation. Meanwhile, the after-school training aims to improve the practical application and innovation ability. It requires the students to improve the comprehensive ability of their majors, and strengthen their innovation and creativity by several ways, such as completing team work, participating in enterprise practice, taking part in innovation and entrepreneurship competitions, having professional contests, applying for innovation projects, and conducting entrepreneurship practices.

(3) For the procedure of improving teaching means and methods, it is of vital importance to modify the methods for teaching assessment, which is from "only knowledge assessment" to "comprehensive assessment" of professional knowledge mastery, application ability cultivation and innovation quality improvement. By the transformation from the final written assessment to the full process assessment, consisting of the ordinary performance, staged test and final examination. So that the cultivation and improvement of innovation and entrepreneurship ability is emphasized in the learning process. Meanwhile, a flexible way of credit recognition for professional innovation and entrepreneurship should be explored. It is suggested to design the flexible elective courses in the innovation training module, and guide the students to obtain the credits by participating in the following aspects: such as academic research, discipline competitions, innovation and entrepreneurship, campus activities and so forth, according to their own strengths and interests. By applying sustainable innovation ability with rich professional teaching means and methods, the creative, innovative and entrepreneurial talents are hopefully cultivated.

(4) It is important to ensure the integration of professional education with enterprise and industry development, and also be significant to combine the innovation and entrepreneurship education with the industrial environment. By properly utilizing the enterprise resources, it is suggested to establish a three-level training platform of "on-campus training room, off-campus practicing and training base, and cooperative innovation project from school and enterprise". The school and enterprise need to cooperate to jointly develop innovation and entrepreneurship projects, promoting the transformation of innovation achievements to real application. Accordingly, the real operating environment and rich project sources for students' innovation and entrepreneurship are provided. In this way, the effectiveness of students' innovation and entrepreneurship activities can be ensured.

(5) By taking advantage of the scientific research, the training for the creativity of innovation and entrepreneurship talent can be improved and ensured. It is obvious that relying on the scientific and technological innovation platform, the university students are encouraged to participate in the teachers' activities, such as scientific research projects, laboratory construction and academic discussions. They are expected to independently undertake the extracurricular projects aiming at the training of scientific and technological innovation. It is also suggested to design special guidance plans for students to participate in extracurricular academic activities and innovative training projects. Through the innovation training, the students can strengthen their exploratory thinking and improve their continuous creativity.

4. Conclusions

In view of the problems existing in the integration of innovation ability and professional knowledge, teachers need to make in-depth analysis and apply innovative teaching mode in practice. In this paper, a CKPI mode is introduced into the teaching reformation and practice of management major courses. The curriculum contents and programs oriented by "Inspiring Innovation Awareness", "Cultivating Professional Knowledge", and "Creating Application Practice" are proposed. Besides, a continuous and multi-dimensional comprehensive evaluation system is also designed.

The exploration of the new teaching mode helps to improve the quality and efficiency of the integration of management knowledge and innovation ability, making the teaching reformation of the management major more in-depth and efficient. In addition, the results of this paper can also provide ideas and examples for teaching reformation, innovation and practice of other majors.

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