

Research on the Construction of New Mode for Innovation and Entrepreneurship Practice Course

—Taking the Integration of Colleges and Enterprises

Youle Qu, Kunlai Sun
School of Food and Medicine
Zhejiang Ocean University
Zhoushan, Zhejiang 316022

Abstract—College innovation and entrepreneurship practice course is a comprehensive system, and the extensive integration of colleges and enterprises is needed to guarantee its authenticity and effectiveness. Aimed at training college students' innovative and entrepreneurial abilities and qualities, this research focused on constructing a new teaching model featuring combining colleges and enterprises, integrated, open and experiential. Besides, under the new teaching model featuring coordinated education and college-enterprise integration, it helped train innovative and entrepreneurial talents with higher comprehensive qualities, wide knowledge and excellent practical abilities, and realized the target of improving college students' innovative and entrepreneurial abilities.

Keywords—cooperative education, innovation and entrepreneurship, the integration of colleges and enterprises, teaching reform

I. CONSTRUCT JOINT COURSE SYSTEM WITH “THREE KINDS OF COORDINATION” AND NEW MODEL FOR OPEN AND EXPERIENTIAL INNOVATION AND ENTREPRENEURSHIP PRACTICE COURSE.

The extensive integration of colleges and enterprises was firstly adopted in the innovation and entrepreneurship practice course of pharmacy major, which optimized the cultivation system, constructed joint teaching course system regarding “enterprises as the main body and students as the center”, and featuring collaborative education, innovation and entrepreneurship. In addition, a new model for this practice course was established, which is open and experiential.

The new model of coordinated education for innovation and entrepreneurship practice course was explored and formed, namely, “brand implantation, innovation and entrepreneurship experience competition, and training the integration of entrepreneurship”, “combination of production and teaching, launching innovation experience, and the integration of teaching, scientific research and production”, and “production first, independent design and making, and the integration of practical ability”.

Under the principle of “win-win cooperation and shared responsibilities”, it mainly discussed the new talent training model and standard system, and formed the situation of “win-win cooperation which means that professional teachers and industry experts jointly regulate practice schemes”,

“coordination between colleges and enterprises which refers to the common teaching by professional teachers and industry experts”, and “experience first, enterprises being main body and students being the center to feel the innovation and development. Therefore, the practice course can be more pertinent, adaptive and effective.

Focusing on creating specialized platform for college innovation and entrepreneurship practice, it explored and established the course reform thought which is based on the industry and featuring college-enterprise coordination, targeted training, and flexible management. The collaborative education mechanism of “cooperative education, resource integration, student-oriented, experience-first, as well as the whole industry chain and process”. So the new experiential model was realized, which is multi-dimensioned (wider teaching concepts and horizon, corresponding course learning, platform practice and enterprise experience) and open (breaking through the time and space limit of talent training, and realizing the coordinated education among classroom, enterprise and society).

II. CONSTRUCT A NEW SYSTEM FOR INNOVATION AND ENTREPRENEURSHIP PRACTICE COURSE OF COLLABORATIVE EDUCATION

This research has been promoted in the related innovation and entrepreneurship practice course of pharmacy and biopharmaceuticals since 2017. Especially, it laid solid foundation for colleges and enterprises to deeply integrate and optimize training system, and construct open and experiential talent training mode. Besides, it is more general. In the specialty of pharmacy, the practice course was totally covered, and there were about 150 students benefited from it. The open, simulated, insuring and open innovation and entrepreneurship practice course has greatly improve students' innovative and entrepreneurial qualities, practical abilities and creative spirit, realized the perfect connection of cooperative education and practical training. The course quality has obviously been promoted. What's more, it has been widely accepted and recognized by our society, particularly teachers and students.

A. “Three requirements” needed to be satisfied in setting goals for innovation and entrepreneurship practice course

Satisfy the demands of innovation. The innovative development cases of enterprises can be introduced for

students to experience field teaching and innovative results, feel innovative development, promote teaching reflection, enrich their learning content, perfect their innovative thoughts, enhance their professional skills and emotions, and foster their overall development.

Satisfy the demands of entrepreneurship. Enterprise brands can be introduced to carry out innovation and entrepreneurship experience competition, train the integration of entrepreneurship, strengthen the sense of responsibility, inspire the interest in entrepreneurship, promote entrepreneurship education, and comprehensively enhance college students' overall qualities and core competitiveness.

Satisfy the demands of curriculum reform. According to the "mass entrepreneurship and innovation" put forward by Premier Li Keqiang, we should integrate colleges and enterprises, perfect related practice course system, promote the innovation and entrepreneurship education covering all members, directions and procedures, and establish the teaching structure of "mass innovation and entrepreneurship".

B. "Cooperative education between colleges and enterprises", optimize the new system for course construction

System first, and include the integration of colleges and enterprises into the whole course plan. In establishing talent training, enterprises can be invited to jointly formulate training plans, teaching syllabus and assessment criteria. The innovation and entrepreneurship practice course requires every student to spend at least 20 hours in college practice, 16 hours in enterprises practice and 10 days in personal experience for innovation and entrepreneurship. All of these are necessary for the qualification. Every year, the practice course covers different majors and classes which are divided into several groups and categories to carry out the special practice.

The practice in and outside class can be combined to create a new method for innovation and entrepreneurship practice course. So the "Chinese Herbal Medicine Association" was specially established in the department of pharmacy and included into the "second class". A week is supposed to be spared in each term for "the practice week of innovation and entrepreneurship" with multi-level practical activities. For example, carrying out "Chinese medicine specimen making competition", sharing the experience of making "herb capsule for Dragon Boat Festival", launching the activity of "recognizing medicine in herbal gardens", sending pills by the hospital, and checking prescription.

C. "Combine brands with social experience", and create new practical experience

In order to promote cooperative education, we should combine brand introduction with social practice, establish the "flyover" and "direct train", explore the integrated and open training mode.

The brand of Meifute, which belongs to Shanghai Meifute Bio-pharmaceutical Technology Co., Ltd, an excellent national WeChat business enterprise, was introduced to the 2018 pharmacy innovation and entrepreneurship practice

course. And Li Zhongxie, the national general agent, delivered a main speech and carry out network guidance. Besides, a competition about entrepreneurship experience of "gather industry strength and fly entrepreneurial dream" was launched. This competition started in June and run from July 1 to September 5. The competition aimed at truly training and promoting students' creative spirit, innovative awareness and entrepreneurial abilities, enhancing college cooperative education, and fostering the extensive integration among colleges, enterprises and society. Secondly, it was in order to promote students' independent entrepreneurship and employment. Social force was used to promote entrepreneurship and innovative education, inspire college students' innovative potential and entrepreneurial initiative, and serve the innovation and entrepreneurship development in our whole society. During the activity, students could begin making their own business by means of being WeChat business agents. There were 5 people who summarized their experience and feelings, and registered the WeChat business after the competition.

III. THE RESEARCH RESULTS RESOLVE THE CONFLICTS IN PRACTICE COURSES OF INNOVATION AND ENTREPRENEURSHIP EDUCATION

A. Solved the problem of "harmony and discord" between colleges and enterprises

It aimed at solving the problems of disjointing between the theory and practice, rather low interest and enthusiasm of college students in innovation and entrepreneurship, as well as poor abilities. The "experiential", "simulated", "inquiring" and "open" innovation and entrepreneurship practice course solved the problem of decoupling and single-method in talent training. In addition, the former cooperation between colleges and enterprises was merely visiting and accepting interns, which failed to deeply carry out talent training, so the new mechanism featuring diversified and open was established to solve these problems.

B. Solved the problem of separation between "in class and outside"

Colleges established cooperation with enterprises, integrated the education resource in the second class, launched the "practice week for innovation and entrepreneurship", and carried out multi-level practical activities. Students were able to go out of classrooms and campus and associate with society. Such behaviors could solve the problems of poor operational abilities, professional abilities and environment adaptation. And the education function of "social colleges" could be given full play.

C. Solved the problem of splitting the "two main bodies"

Colleges extensively combined with industries, and their strategic cooperation was supported by our society. Innovation and entrepreneurship practice reflected the social demands so that it was convenient for teaching reform. Enterprises were introduced to practice courses in the whole process so as to promote students' innovation and entrepreneurship and display the advantages of two main bodies.

IV. APPLICATION AND EFFECTS OF THE RESEARCH RESULTS

A. Highlight and brand effect and acquire fruitful development

The innovation and entrepreneurship practice rate of students in the department of pharmacy was 100%. They established two Meifute business groups and one practice base, carried out WeChat entrepreneurship teaching for more than 30 times, and provided guidance for over 40 hours. Chinese herbal medicine association was chosen as the “star association in Zhejiang Ocean University”, which carried out the “Chinese medicine specimen making competition”, shared the experience of making “herb capsules for Dragon Boat Festival”, launched the activity of “recognizing medicine in herbal gardens” and sending pills by the hospital, checked the prescription for more than 20 times.

Particularly, the practice of “Meifute entrepreneurship experience” was specialized and oriented with project and base. In the recent 2 years, there were more than 100 students participating in the practice, covering the major of pharmacy and biopharmaceuticals. And there were about 6 guiding teachers from enterprises and 5 tutors from colleges.

Walking into Hailisheng and feeling the innovative development was the theme of short-term experiential teaching of pharmacy in Zhejiang Ocean University. Students could have the opportunity to learn from Wang Jiabin, the vice-president of the enterprise, and 6 senior engineers including president of academy, director of research institute and workshop leader. By means of field experience, students deeply recognized that the success of Hailsiehg is owing to its core competitiveness of innovation. Innovation is put in the first place in the three sectors of medicine, biology and aquaculture of Hailisheng. It focuses on product innovation and abandons the method of homogenization, and excessive price competition. And its innovation is involved in technology, commercial model, management and team construction.

B. Enhance training quality and get popularity among the public

Through nearly three-year practice, students majoring pharmacy acquired 12 projects of “*Innovation and entrepreneurship training program for college students*” (5 national-level projects), published 8 academic papers and applied for 32 patents (1 utility model patent certificate, and other inventions and utility model patents were in the announcement). There were 165 students won 152 first, second and third prizes in various competitions such as *College Students’ Entrepreneurship Competition in Zhejiang Province*, *Zhejiang 10th Challenge Cup*, *Aokang College Students’ Entrepreneurship Competition*, *Life Science Competition for College Students in Zhejiang Province*, *The 3rd Zhejiang “Internet Plus” Competition for College Students’ Innovation and Entrepreneurship*, and *Chemistry Competition for College Students in Zhejiang Province*.

The employment rate of graduates has always been above 96%. The graduate entrance examination rate has reached 50%, and the admission rate has reached 20%. Numerous graduates found jobs in famous pharmaceutical companies

both in and out of the province and quickly became the backbone of the enterprises. They gained great popularity among enterprises and created “the professional quality of pharmacy in Zhejiang Ocean University”.

The specialty of pharmacy won the title of characteristic specialty in the 12th and 13th five-year strategy emerging industry in Zhejiang province. Pharmacy teachers won 6 awards in various national, provincial and college teaching competitions, and published 12 papers on educational reform, including sharing 8 papers (in English) on educational research and national academic seminar on social science twice.

C. Serve local economy and acquire positive reflection

Chinese herbal medicine association was deeply rooted in the heart of Zhoushan people, having made great contributions to a beautiful ocean island and become a typical scenery line for the tourism island serving the area. Under the guidance of professional teachers, the association carried out the “Chinese medicine specimen making competition”, shared the experience of making “herb capsules for Dragon Boat Festival”, launched the activity of “recognizing medicine in herbal gardens” and sending pills by the hospital, checked the prescription for more than 20 times. The faculty of pharmacy actively participated in the training of licensed pharmacists and pharmaceutical buyers in Zhoushan. Zhoushan pharmaceutical association highly praised the service effect of the department and Chinese herbal medicine association, and their concept of taking professional road.

V. CONCLUSION

This project helped train innovative and entrepreneurial talents with higher comprehensive qualities, wide knowledge and excellent practical abilities, and realized the target of improving college students’ innovative and entrepreneurial abilities. It was mainly by means of constructing “three kinds of coordination”, joint teaching course system with the integration of colleges and enterprises, open and experiential practice course model, and coordinated education system, as well as applying original teaching methods to reality.

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