

The Research on Innovative and Entrepreneurial Talents' Training Mode in Colleges and Universities—With Wuhan Donghu University as a Case

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Abstract—Taking Wuhan Donghu University as an example, this paper studies the training mode of innovative entrepreneurship talents in Colleges and universities from several aspects, such as ability objectives, curriculum system, practical activities and safeguards. By interviewing the successful entrepreneurship students of Wuhan Donghu University, this paper further analyses the process of entrepreneurship training from the perspective of students, and verifies the innovative entrepreneurship training mode, which can provide reference for other colleges and universities.

Keywords—Colleges and universities, innovation and entrepreneurship, talent training mode, training mode of talents, ability goal, course system

I. INTRODUCTION

The training of innovative talents is an important measure to realize the national goal of “mass entrepreneurship and innovation”. In June 2015, the State Council issued Opinions on Several Policies and Measures to Promote Mass Entrepreneurship and Innovation. In the activity week of national mass entrepreneurship in 2017, Premier Li Keqiang pointed out that innovative and entrepreneurial activity could stimulate market vitality, promote fair opportunities and expand employment.

The ability structure of innovative entrepreneurs includes not only innovative consciousness, innovative thinking and innovative ability, but also entrepreneurial consciousness, entrepreneurship and entrepreneurial ability.[1] The training mode of innovative and entrepreneurial talents refers to the structure of innovative and entrepreneurial knowledge, ability, quality constructed by colleges and universities for college students, and the way to realize this structure.[2] At present, innovative and entrepreneurial education has been included in the education of colleges and universities. Colleges and universities are actively exploring and practicing the training of innovative and entrepreneurial talents. How to cultivate innovative and entrepreneurial talents according to their own features is a topic that many colleges and universities are concerned with.

II. LITERATURE REVIEW AT HOME AND ABROAD

Innovation and entrepreneurship education in the United States has a good social foundation, and has further developed into a social support system, forming a relatively perfect innovation and entrepreneurship education system[3]. For example, some famous American universities such as Baisan Business School, Harvard University and Stanford University have their own merits in innovation and entrepreneurship education, representing several typical models of different types. The model of Baisan Business School is based on innovation of teaching plan and academic research as the foundation of entrepreneurship education; Harvard University mainly trains practical management experience of entrepreneurship; Stanford University mainly trains systematic knowledge of entrepreneurship.[4] In addition to offering innovative entrepreneurship courses, American colleges and universities also hold a large number of entrepreneurship competitions and cooperation with enterprises, which provide good practical opportunities for students' entrepreneurship training[5].

The English government stresses innovative and entrepreneurial education for undergraduates. In 1987, the English government took the lead in launching the entrepreneurial plan of high education. At present, English universities have established a course system of entrepreneurial talents' training with such three levels as innovative and entrepreneurial awareness, general entrepreneurial education and entrepreneurial occupation.[6] According to Mckeown's survey of innovation

and entrepreneurship courses in 102 British universities, 77% of undergraduates have entrepreneurship courses, and all universities have entrepreneurship courses at the postgraduate stage.[7]As for teaching methods, the method of teaching as well as learning was adopted. English universities fully used apprenticeship method, sensitive training, brain storm, practical work, work shadow exercise, work interview, entrepreneurial consultation, action learning and other flexible teaching methods. In terms of teaching staff construction, it was enlarged from business college to colleges of environment, music, art, engineering, architecture, etc. The advantages of entrepreneurial communities and companies were also used, which provided entrepreneurial mentors with high skills for colleges and universities.[8]

Zhou Xinmin (2016) pointed that there were four modes for training innovative talents for colleges of economic management: establishing an evaluation system of innovative and entrepreneurial education, reconstructing a course system, focusing on entrepreneurial practice and holding special practice. Besides, he also thought that the training for talents could be improved from such aspects as changing students' understanding in idea aspect, changing course contents, establishing innovative mode and strengthening teaching staff.[9]. Xu Tiemei (2013) had a research on the connotation of innovative and entrepreneurial talents and put forward the following points to train innovative and entrepreneurial talents: creating entrepreneurial atmosphere at school, arousing students' innovative and entrepreneurial motivations, setting up entrepreneurial courses, developing students' entrepreneurial ability and improving policies and regulations.[10] Huang Limei (2018) analyzed entrepreneurial education with triple helix theory and put forward the mode of breaking the border of universities, industries and governmental organizations in entrepreneurial education. [11]

In conclusion, researches on the training of innovative and entrepreneurial talents mainly focus on teaching plan, a=teaching methods and entrepreneurial competitions. But such aspects are not combined to explore the topic. There is little empirical and case research. This paper synthesizes four aspects of innovative entrepreneurship personnel training: ability objectives, curriculum system, practical activities and guarantee system. It puts forward a model of innovative entrepreneurship personnel training in Colleges and universities, and takes Wuhan Donghu University as an example to demonstrate this model.

III. THE TRAINING MODE OF ENTREPRENEURIAL TALENTS IN WUHAN DONGHU UNIVERSITY

Wuhan Donghu University is oriented on developing students' innovative and entrepreneurial abilities. It carries out the reform from such aspects as course setting, innovative and entrepreneurial activity, school-company cooperation and safeguard measure. In terms of course setting, general and professional courses are set up and teaching methods are reformed. In terms of practical activities in innovation and entrepreneurship, school-company cooperation is strengthened. According to the needs of local economy and industries' development, experimental training platforms are established to develop students' practical abilities in innovation and entrepreneurship. Innovative and entrepreneurial contests and teams are organized. Innovative and entrepreneurial funds of college students are set up to encourage and support students to realize their ideas. Good innovative projects are chosen to be incubated. In terms of safeguard measure, incubation base and innovative masters are provided. Students' practical abilities are developed.

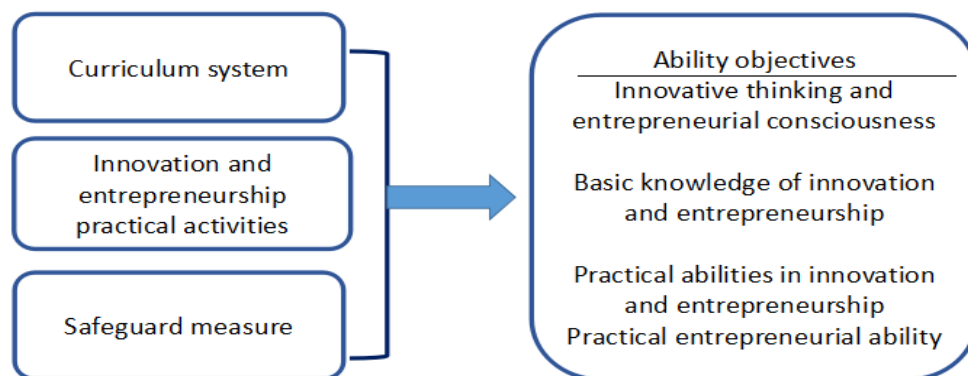


Fig. 1 The training mode of innovative and entrepreneurial talents in colleges and universities

A. The course system of innovation and entrepreneurship

In course setting, training course module of innovation and entrepreneurship is set up. This module is divided into general and professional training courses. General courses are for all the students, including innovation basis, occupation development and employment guidance for college students, innovation & patent and other general compulsory courses. Professional courses are the ones that are set up according to the features of majors. Its purpose is to embed professional knowledge into innovation and entrepreneurship education, give full play to professional advantages, encourage innovation relying on the major, and transform scientific and technological achievements into productive forces.

Besides some special courses of innovation and entrepreneurship, the schools also pay attention to students' innovative and entrepreneurial ideas in other courses. From the beginning of the new semester, the enlightenment project of innovation and entrepreneurship is added into professional introduction. With the gradual learning of general and professional knowledge, innovative and entrepreneurial elements are introduced into professional courses. Knowledge is updated and new trend of

industrial development is introduced. It makes general education combine with professional knowledge and they supplement each other. The mode of “innovation directs entrepreneurship; majors help entrepreneurship; market is centered on to start a business” is formed and this mode is called “Donghu Mode” by Peoples Network.

B. Practical activities of innovation and entrepreneurship

1) Developing entrepreneurial competitions actively

Wuhan Donghu University pays attention to the development of students’ practical abilities in innovation and entrepreneurship. It develops competitions of innovation and entrepreneurship, such as “Creating Youth” Wuhan Donghu University Entrepreneurial Contest, “Internet+” Entrepreneurial Contest for College Students, E-commerce Contest and so on. During the years from 2017-2017, students have gained 8 national prizes of innovation and entrepreneurship and 52 provincial prizes. These competitions have motivated students’ entrepreneurial interest and enthusiasm. In order to know the influence of entrepreneurial competitions on college students, this paper conducted a questionnaire survey on students of Wuhan Donghu College. A total of 300 questionnaires were distributed and 248 questionnaires were effectively retrieved, of which 28 were already entrepreneurs and 220 were not yet entrepreneurs. And according to the result, 38% students thought these activities were helpful for the future entrepreneurship and employment. 34% students thought they have learned basic knowledge from these activities. 12% students found some entrepreneurial partners. 11% students’ entrepreneurial interests were improved and 5% of students’ innovation and entrepreneurship projects were successfully hatched. through these competitions.

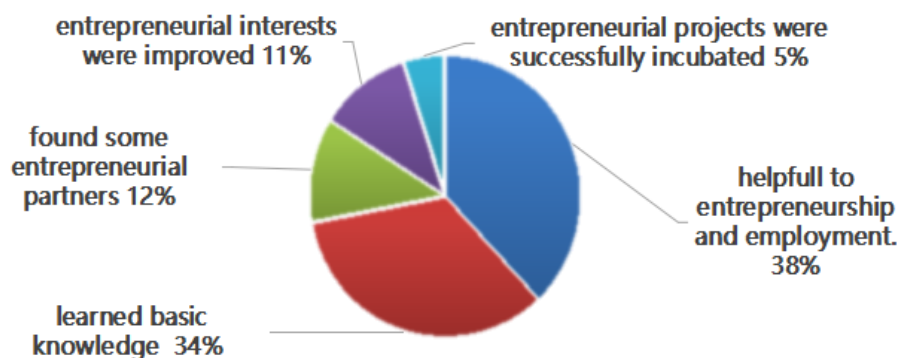


Fig.2 Influence of entrepreneurial competition on college students

2) Developing students’ communities and promoting innovation and entrepreneurship

In 2018, there are 51 students’ communities, including 13 professional communities in this school. These professional ones have made great contribution to leading innovation and entrepreneurship. For example, since the ten years of the establishment of “innovation and skill community” in school of mechanical and electrical engineering, over 220 patents were approved, among which 4 patents won the first prize. And 7 patents won the second prize and 2 won the third prize. Besides, the school has some professional communities like “Edison” Community, which has give full play to its advantages.

TABLE. I MAJOR PROFESSIONAL COMMUNITIES’ ACTIVITIES OF COLLEGE STUDENTS

colleges	communities’ activities
School of Mechanical and Electrical Engineering	“Innovative and skillful ”community, “Entering the world of electricity” series activities
School of Electronic Information Engineering	“Light of telecommunication”series activities
Management School	E-commerce contest of “innovation, originality and entrepreneurial” for college students
School of media and art design	“Gold microphone” host contest
School of computer	“Keyun” cultural festival
School of life science and chemistry	Series of contests of life science and chemistry

3) Incubation of entrepreneurial projects

The university encourages students to take part in all kinds of innovative and entrepreneurial training projects. A school-level innovative and entrepreneurial fund for students is established. A certain proportion of selected projects are supported with capital each year. Besides, entrepreneurial masters are equipped for each project. Form 2015-2018, students in the university have 143 projects that were approved as national innovative and entrepreneurial training projects, 38 provincial projects and over 300 school-level projects. For those projects with potential and growth momentum, they will be selected into incubation base of the school. According to their growth degrees, these projects can be divided into such levels as “seed project”, “green project” and “fruit project”. According to the features of the projects, scientific innovative projects are incubated. Majors can be relied on to start a business and accurate entrepreneurial way are used. From 2015-2017, the incubation base of the university successfully incubated 34 companies, among which 2 companies were listed in Wuhan equity transaction custody center. 47 projects got support from Hubei government and 5 creators of companies won “The

Yangtze River Students” Entrepreneurial Prize. And one creator won the name of “Wuhan college students’ entrepreneurial pioneer”.

4) School-company cooperation promotes innovation and entrepreneurship

Wuhan Donghu University uses ways of production-education combination and school-company cooperation to develop innovative and entrepreneurial talents. There are mainly two ways. The first way is that the school builds majors with companies. According to the needs of industrial development, the school and companies discuss ability structure of talents and formulate goals and plans for developing talents together. Innovative and entrepreneurial courses are also set up. Companies will select experienced masters to teach students. At the same time, professional masters will be equipped for college students. For example, the major of finance management and Xindao scientific company co-build the major. According to the trend, cloud finance major is set up. Courses are updated with the latest technologies and experimental training platform is set up, which will connect the industry and develop students’ entrepreneurial ability. The second way is to establish school-company training bases. Students go to the companies to learn and to be trained regularly and to know its development, preparing for employment and entrepreneurship. Meanwhile, in-school practical platform is established, such as school-company lab, open lab and so on. It will direct students and masters to strengthen communication through the diverse platform and develop students’ innovative spirit and entrepreneurial ability.

C. Safeguard measure

1) The construction of teaching staff for innovation and entrepreneurship

The courses and teams of entrepreneurship need experienced masters to provide guidance and consultation. The teaching staff in the university are divided into 3 kinds. The first kind is professional entrepreneurship teachers in the school, who will teach relevant theoretical courses and make students know the nature and connotation of entrepreneurship. The second kind is some experts from key famous universities and scholars, who will have some lectures about innovation and entrepreneurship. “Entrepreneurship chain and Youth Circle-Entrepreneurship lecture for Hubei youths” is one of the lectures. The third kind is some training masters from school-company cooperation. They mainly solve and answer some problems that students meet in the process of starting a business and they will provide some help for them.

2) Policy support and environment

To encourage and support college students to start a business, many policies have been made to support innovation and entrepreneurship in recent years. An entrepreneurship center with an area of 5,000 square meters was built. For those companies that incubate projects in the center, free site, water and electricity are provided. As for capital, twenty million yuan was raised to help the students with entrepreneurial enthusiasm to create small and micro businesses as working cash in early stage. In technology, one to two teachers were equipped for each incubation stage. The incubation base in the school is a model base of Hubei Province and it has won incubation prize of model school in innovation education. At the same time, the school was chosen as a model school in innovative and entrepreneurial education.

IV. CONCLUSION

Wuhan Donghu University develops students’ innovative and entrepreneurial ability from such aspects as reform of course system, practical activities of entrepreneurship and safeguard measure. The paper investigated 28 students who successfully started a business. The training mode of innovative and entrepreneurial talents is tested from the perspective of student entrepreneurs. The table II describes the process of college students’ innovative activities during the four years in their college. According to the table, it can be seen that freshmen receive enlighten education and join professional communities. Innovative awareness are developed and their interest in starting a business are aroused. In the second year in their college, general education courses are set up. Students are directed to take part in entrepreneurial contests and projects. Their innovative abilities can be developed. In the third and fourth year in their college, professional courses of innovation are established. Students can join in school-company cooperation and professional practice. The school evaluates some innovative projects and incubates some key ones. Then scientific achievements can be transformed.

TABLE.II TRAINING PROCESS OF COLLEGE STUDENTS’ INNOVATIVE AND ENTREPRENEURIAL ABILITY

	Ability Goals	Course System	Practical Activities	Safeguard Measure
The first year in college	Developing innovative awareness and creative ideas	Enlighten education in innovation and entrepreneurship	Professional communities	Creating atmosphere and motivating interests
The second year in college	Mastering knowledge of innovation and developing abilities of starting a business	General education for innovation and entrepreneurship; professional education for innovation and entrepreneurship	Taking part in contests and projects of innovation and entrepreneurship	Equipping in-school tutor and digging out innovative projects
The third and fourth year in college	Practical ability of innovation and entrepreneurship	School-company cooperation; training courses of professional practice	Projects’ maturity and incubation	In-school tutor +off-school tutor; incubation sites; capital support

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