

Research on the Curriculum System of Innovation and Entrepreneurship Based on the Whole Process of Talent Cultivation

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Abstract: The construction of the innovation and entrepreneurship curriculum system in Neusoft Institute Guangdong is an urgent issue under the encouragement of national policies and the promotion of social development. Research in this paper obtains relevant data through interviews and questionnaires. This paper presents analysis on the problems existing in the courses, practices and effects of innovation and entrepreneurship education. It is suggested to build a curriculum system of innovation and entrepreneurship based on the whole process of talent cultivation, including strengthening the cultivation of innovation consciousness, skills and spirit in the content of compulsory courses of innovation and entrepreneurship for all students, and weakening the content related to start-up management; strengthening the practice system of innovation and entrepreneurship education; constructing a talent cultivation program based on the concept of OBE and integrating majors and innovation and entrepreneurship education.

1. Development Background of Innovation and Entrepreneurship Education

1.1 Policy Background

In recent years, the state has vigorously promoted the education of innovation and entrepreneurship, and issued a series of documents encouraging the reform of innovation and entrepreneurship education in colleges and universities. In 2005, the general office of the state council issued "the implementation opinions on deepening the reform of innovation and entrepreneurship education in institutions of higher learning",([2015]36) which put forward the following Suggestions: improve the quality standards of talent training; Innovate talent training mechanism; Improve education on innovation and entrepreneurship; Reform teaching methods and assessment methods; Strengthen the practice of innovation and entrepreneurship; Reform teaching and school roll management system; strengthen the teaching ability construction of teachers' innovation and entrepreneurship; Improve student entrepreneurship guidance service; We will improve the financial and policy system for innovation and entrepreneurship [1].

In 2017, the state council issued "the opinions on strengthening the implementation of the innovation-driven development strategy and promoting the in-depth development of mass entrepreneurship and innovation".([2017]37) which put forward the following Suggestions: improve the environment for innovation and entrepreneurship, strengthen policy supply, break through development bottlenecks, unleash the full potential of innovation and entrepreneurship in society, and promote mass entrepreneurship and innovation on a larger scale, at a higher level and at a deeper level [2].

These documents provide important directions for colleges and universities to actively explore innovation and entrepreneurship education.

1.2 Social Development Background

The fourth industrial revolution with the Internet of things, big data, cloud computing and artificial intelligence as the core is bringing unprecedented profound impact on the human society. Therefore, how to adapt to new technologies and new changing environment, and cultivate new talents with strong adaptability, learning ability and innovation ability has become an important

course of education reform [3].

2. An Analysis of the Curriculum System of Innovation and Entrepreneurship in Neusoft Institute Guangdong

2.1 Basic Information

Since Neusoft Institute Guangdong released the document "innovation and entrepreneurship guidance plan for students of Neusoft Institute Guangdong" in 2015, the innovation and entrepreneurship reform has entered the fast track and a relatively complete entrepreneurship education system has been established. It has built a team of entrepreneurship mentors covering both inside and outside the school with professional technical ability and entrepreneurship experience. A positive entrepreneurial atmosphere has been formed, and a summary of the school-running process in the past few years can provide suggestions for the Institute to build a high-level university with distinctive applied technologies [4].

In September 2017, Neusoft Institute Guangdong established the school of innovation and entrepreneurship management, and in January 2018, the china-southeast Asia family business research center was established. The school of innovation and entrepreneurship management is responsible for the management of innovation and entrepreneurship courses, family business research center and college student entrepreneurship center.

By the end of 2018, all students will be offered compulsory courses "fundamental of innovation and entrepreneurship", "simulation of innovation and entrepreneurship" and optional courses "practical innovation and entrepreneurship". At present, the compulsory courses are "innovation, creative thinking and entrepreneurship" and "entrepreneurship".

2.2 Current Situation and Problems of Innovation and Entrepreneurship Courses

By the end of 2018, compulsory courses for all students were "foundation of innovation and entrepreneurship" and "simulation of innovation and entrepreneurship".

"Foundation of innovation and entrepreneurship" is positioned as a basic course of innovation and entrepreneurship for all students, which is a required course. It includes two learning contents: the first part is innovative thinking methods and tools, including logical thinking, divergent thinking, associative thinking, mind mapping, TRIZ and other contents. The second part introduces the process and method of ideas and new enterprises, including ideas, entrepreneurs, entrepreneurial opportunities, entrepreneurial teams, resource integration, business model design, etc.

"simulation of innovative entrepreneurship" as required courses for the students, choose "financial empire II" as teaching software tools. Students form teams, choose industries, set up enterprises, and make a series of decisions. The evaluation of students' performance can be obtained through soft performance, which is similar to a business decision game.

After 3-4 years of practice, the main problem is that the teaching purpose and teaching content are not clear enough, the focus of teaching content is not prominent enough, the teaching quality of innovation and entrepreneurship needs to be improved. Since 2018, "entrepreneurship foundation", "innovative and creative thinking and entrepreneurship" and "entrepreneurship" have been successively launched, which is a process of adjusting the teaching content, reflecting on the teaching purpose and verifying the teaching effect.

2.3 Current Situation and Problems of Innovation and Entrepreneurship Practice System

The innovation and entrepreneurship practice system of Neusoft Institute Guangdong is composed of SOVO, innovation and entrepreneurship competition, entrepreneurship 18MALL and IT pioneer park in south China.

SOVO (Student office Visual office), is a platform where teachers guide college students to engage in practical projects. The teams focus on social and campus needs, give full play to their major advantages, and carry out the operation of virtual companies, including software companies, e-commerce companies, tourism development companies, etc., so as to apply professional

knowledge to the project and improve the ability of innovation and entrepreneurship.

Students can participate in the innovation and entrepreneurship plan, various competitions, run mature projects in SOVO, and enter the entrepreneurship 18MALL for incubation. After students graduate, companies that continue to start their own businesses can move into Neusoft south China IT pioneer park and get three services of investment and financing, education and training, and public research and development platform.

From 2017 to 2019, won 65 provincial-level projects and 15 national-level projects in the "innovation and entrepreneurship training program for college students"; In the past three years, students have won more than 15 provincial awards in "China Internet+ innovation and entrepreneurship competition" and 1 excellent innovation project. In the past three years, more than 10,000 students have participated in various competitions and submitted 2,000 applications for innovation and entrepreneurship projects.

The main problems in the innovation and entrepreneurship practice system of Neusoft Institute Guangdong are as follows: the SOVO office cannot continue to open, and there will be interruption during the summer vacation; The number of events participated in the competition is large, but the quality is not high; The number of startups successfully incubated is small; Less intellectual property rights, patents and other achievements formed by entrepreneurial teams; Failed to well stimulate enterprises, teachers to participate in the entrepreneurial activities of student teams.

2.4 The Teaching Effect of Innovation and Entrepreneurship Education

According to the survey conducted in December 2019, there is a lot of room to improve the teaching effect of innovation and entrepreneurship. For example, in response to the question "how do you think your ability to innovate and start a business has changed since you entered university?" 15 percent of the students said "significant improvement ", 60 percent students said "partial improvement ", and 2 percent said "no progress".

3. Basic Concept of Innovation and Entrepreneurship Education

3.1 Nature of Innovation and Entrepreneurship Education

Clarifying the purpose and significance of innovation and entrepreneurship education is conducive to determine the orientation and content of innovation and entrepreneurship education, avoid the deviation of understanding and misplacement of action.

Excessive strengthening of the utilitarian value of innovation and entrepreneurship education is not conducive to expanding the vision of college students to some extent, but also deviates from the nurturing nature of innovation and entrepreneurship education in colleges and universities [5]. The goal and starting point of innovation and entrepreneurship education in colleges and universities is to promote the all-round development of people [6].

Compared with entrepreneurship education in the traditional sense, innovation and entrepreneurship education is a quality-oriented education facing the whole audience, which emphasizes the innovation practice of innovative entrepreneurs and strives to transform the achievements of innovation and entrepreneurship into real productive forces [7]. From the perspective of the value dimension contained in education, innovation and entrepreneurship education in colleges and universities is a dialectical unity of individual value and social value [8]. Standardize innovation and entrepreneurship education from the perspective of values, which provides a foundation for the construction of innovation and entrepreneurship system.

It can be seen that innovation and entrepreneurship education is an integral part of quality education, serves the all-round development of people, and is the unity of individual value and social value. Neusoft Institute Guangdong should avoid excessive utilitarian purposes in the education of innovation and entrepreneurship, should avoid setting excessive goals such as how many companies and how much profit students should create, and should avoid excessively favoring the education of entrepreneurship.

3.2 Contents of Innovation and Entrepreneurship Education

Yingjie Huang pointed out that the education of innovation and entrepreneurship should be oriented to all students, On the basis of major education, the education concept should be updated to enhance students' innovative spirit, entrepreneurial awareness and entrepreneurial ability [9].

Yuli Zhang suggested that innovation entrepreneurship education to cultivate students' positive enterprising and innovation consciousness, strengthen the entrepreneurial spirit, cultivate and exercise opportunity identification, innovation, resource integration and team building, knowledge integration skills, guides the student to work together with entrepreneurial thinking and code of conduct, thinking and learning like entrepreneurs, cultivate and strengthen creative analysis and problem solving skills, improve innovation ability [10].

It can be seen that the content of innovation and entrepreneurship education includes three main aspects: innovation and entrepreneurship spirit, consciousness and ability, and the content of cultivation has depth, breadth and difficulty. Therefore, it is necessary to focus the general courses of innovation and entrepreneurship on the spirit of innovation and entrepreneurship awareness, and the cultivation of entrepreneurship ability should be carried out in combination with different majors.

4. To Build a Curriculum System of Innovation and Entrepreneurship based on the Whole Process of Talent Cultivation

4.1 Integrates Courses, Practices and Majors

After years of practice, Neusoft Institute Guangdong has gradually established a curriculum system of innovation and entrepreneurship based on the whole process of talent cultivation with the chain of imagination, creativity, maker, innovation and entrepreneurship.

First, a curriculum system of innovation and entrepreneurship based on the whole process of talent cultivation is constructed, including compulsory general courses for all students, elective courses for makers, and micro-credit elective courses for entrepreneurship and so on.

Second, a practice system of innovation and entrepreneurship based on the whole process of talent cultivation is constructed, including a practice platform system composed of SOVO virtual company, 18MALL incubator and IT pioneer park in south China.

Third, a curriculum system of integration of major and innovation and entrepreneurship with the concept of OBE and top-cares as the leading ideology has been constructed. All the teaching courses have been divided into seven abilities, and the cultivation of students' social responsibility, innovative spirit, international vision and practical ability has been implemented in the whole process of talent cultivation.

4.2 Adjust the Teaching Contents and Methods of Innovation and Entrepreneurship

As a general innovation and entrepreneurship course for all students, the content of innovation and entrepreneurship awareness, skills and entrepreneurship should be strengthened, while the content of start-up management should be weakened.

The school continuously adjusts the content and orientation of innovation and entrepreneurship courses, and gradually forms two compulsory courses "innovative and creative thinking and methods" and "entrepreneurship and startup" for all students, highlighting the cultivation of innovative thinking and entrepreneurship; And the optional courses for SOVO virtual companies, including "design thinking and innovation", "business thinking and entrepreneurship", "project management and innovation and entrepreneurship", focusing on the improvement of entrepreneurial ability; Finally, there are some micro-credit courses for entrepreneurial team problem solving, such as "product design", "venture financing", and "marketing plan", which focus on entrepreneurial problem solving.

4.3 Optimize the Innovation and Entrepreneurship Practice System

The innovation and entrepreneurship practice system of Neusoft Institute Guangdong is composed of a number of platforms covering the whole process of talent cultivation, including SOVO, entrepreneurship mall incubator, Neusoft south China IT pioneer park, etc.

First, the site requirements of the SOVO virtual company should be guaranteed, including sufficient space, network facilities and continuous opening hours. Secondly, the laboratory of each major should be opened to ensure that students can make full use of the laboratory resources in their spare time. Then, through the calculation of workload and reward, to stimulate teachers to guide students entrepreneurial team; Finally, teachers are encouraged to lead students to participate in school-enterprise cooperation, and enterprises are encouraged to set up institutions around the campus.

4.4 Establish a Curriculum System Integrating Major and Innovation and Entrepreneurship

Based on the concept of OBE and guided by the ideology of “top-cares”, the training programs for talents of various majors are constructed. “Top-cares” is an acronym for 8 abilities, these include Technical Knowledge and Reasoning, Open Thinking and Innovation, Personal and Professional Skills, Communication and Teamwork, and Attitude and habits Manner, Responsibility, Ethical Values, and Social Value Created by Application Practice. All the courses of each major are divided into 8 abilities, and the ability cultivation points of each course are defined. At present, the reform of "top-cares" has been carried out in all computing majors. There are 9 courses in each major that involve the cultivation of open thinking and innovation. The teaching hours of practice account for 43% of the total teaching hours.

5. Conclusion

In general, an effective curriculum system of innovation and entrepreneurship can only be built based on the whole process of talent cultivation. The main measures include setting up courses of innovation and entrepreneurship, constructing practical links of innovation and entrepreneurship, encouraging students to participate in various innovation and entrepreneurship competitions, and implementing the talent cultivation program of "integration of specialty and innovation and entrepreneurship".

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