

## Construction of Innovation and Entrepreneurship Education System under the Background of New Engineering

Jinwen Chen<sup>1</sup>, Hao XU<sup>2</sup>, Chaoming Cai<sup>3</sup>, Meishan Liang<sup>4,\*</sup>

<sup>1</sup> City College of Dongguan University of Technology, School of Intelligent Manufacturing, Dongguan, Guangdong, China.

<sup>2</sup> City College of Dongguan University of Technology, School of Computer and information, Dongguan, Guangdong, China.

<sup>3</sup> City College of Dongguan University of Technology, School of Foreign Languages, Dongguan, Guangdong, China

<sup>4</sup> Business School, Yunnan University of Finance and Economics, Kunming, Yunnan, China

1712849837@qq.com

\*corresponding author

**Keywords:** Under the background of new engineering, Innovation and entrepreneurship, Construction of education system

**Abstract:** In the new form, with the deepening of education reform, new engineering has become an inevitable trend of China's future education. With the school-enterprise cooperation and integration of production and education, it breaks the traditional fine teaching mode, and is more committed to the development of high-quality talents' innovation ability and entrepreneurial ability. This paper analyzes the measures and effects of the construction of innovation and entrepreneurship education system under the background of new engineering.

### 1. Introduction

With the rapid development of social economy, in order to meet the development needs of modern innovative and compound talents, colleges and universities integrate new industries and new economic formats, and set up new education majors, such as intelligent manufacturing, cloud technology, artificial intelligence, etc. In addition, the traditional engineering education has been improved and updated, then the updated contents belong to the category of new engineering. Compared with the past engineering talents, the engineering talents needed by the new image industry and new economic format are more practical, innovative and high-quality with more international competitiveness. They not only conduct in-depth research and study on various disciplines and majors, but also cross integrate the contents of various disciplines, so as to realize the mastery of the knowledge of various disciplines. On the basis of previous knowledge, they deeply excavate their technology and knowledge, and derive new subject knowledge, which plays an important leading role in the future development of economy, science and technology. In addition to excellent knowledge and technology, they also dabble in social economy and management content, and have good humanistic quality<sup>[1]</sup>. It can be seen that talents under the background of new engineering are more innovative and entrepreneurial, so that they are conducive to the development of China's new situation.

### 2. Measures for the Construction of Innovation and Entrepreneurship Education System under the Background of New Engineering

#### 2.1 Realize School-Enterprise Symbiosis, Construct Innovation and Entrepreneurship Teaching Mode

Firstly, the cooperative talent training program should be made. According to the three major

service needs of information technology, intelligence and modernization, schools can take the way of cooperation and development with major enterprises to establish a new innovative and compound talent team, aiming at cultivating more comprehensive, compound and innovative talents with international competitiveness for China under the new situation. Based on the enterprise scientific research projects, it is necessary to cultivate students' innovation consciousness, improve entrepreneurial ability, and according to the current social talent development needs, formulate relevant personnel training and development, fully integrate the enterprise project and teaching classroom, encourage and affirm the students' practical results through comprehensive evaluation, so as to maximize the students' own value.

Secondly, schools and cooperative enterprises can jointly develop three types of innovation and entrepreneurship education system courses, from shallow to deep, to achieve excellence. The first type is the awareness of entrepreneurship and innovation course. We popularize the knowledge of innovation and entrepreneurship education for all students, and carry out theoretical and practical teaching through enterprise projects, and offer elective courses such as VR foundation, technological innovation methods, and network entrepreneurship. The second type is to carry out innovation and entrepreneurship education on the basis of setting up innovation and entrepreneurship courses, carry out training and development of professional knowledge and skills for some higher vocational college students, combine with enterprise R & D projects to set up professional innovation and entrepreneurship demonstration courses such as mechanical manufacturing innovation and thinking design. The third type is the professional courses integrated with co-construction and innovation elements. For students of professional skills and disciplines, professional skill education should be carried out according to the requirements of enterprise R & D projects. Schools and enterprises should cooperate to develop the design and production of small industrial works, and integrate them into the usual innovation and entrepreneurship education courses.

Finally, schools and enterprises should jointly build a high-quality mixed teaching team. The first is the backbone team, composed of enterprise business backbone and school teachers, to teach students professional theoretical knowledge and skills, and guide the cultivation and development of innovation and entrepreneurship awareness. The second is the inquiry group to answer questions in time to help students solve their entrepreneurial difficulties. The third is the law, regulation and policy consulting team<sup>[2]</sup>. By employing financial and legal professionals, the legal team is set up to train students on various innovation and entrepreneurship policies, so as to timely understand relevant laws, regulations and government policies. The fourth is to establish a mutual aid team. Through relatives and friends, we can get more customer resources, expand the business, improve the success rate of entrepreneurship.

## **2.2 Practice Curriculum of Innovation and Entrepreneurship Education System**

Firstly, we should expand the practice area in the school, integrate the practice resources within the school, realize the sharing of practice resources, provide students with practice activity places by creating practice incubation base, establishing entrepreneurship park and training center, etc. ① In terms of the practical resources of the incubation base, the school should fulfill the responsibility of innovation and entrepreneurship teaching to serve students, provide a good incubation acceleration site for students, hire professional incubation tutors for professional knowledge guidance and teaching. At the same time, the school should also provide incubation resources, and offer good services for students with the help of scientific and technological innovation, technical services, information testing and other platforms. ② On the establishment of entrepreneurship park, the school can unite enterprises to provide students with good project research and development places (such as college students entrepreneurship park, Shenzhen Animation Entrepreneurship Park, Changzhou Information Industry Park, etc.), and provide students with a good educational environment and atmosphere by increasing the creative area, incubation area, acceleration area, service area, demonstration area, etc., so as to improve students' entrepreneurial enthusiasm and meet the needs of the college students' entrepreneurial development needs. ③ We

can increase training centers. The school can cooperate with enterprises to create a special innovation and entrepreneurship practice center, cooperate with domestic famous enterprises (such as animation design and model-making design training center, robot and intelligent equipment design and R & D innovation training center, CNC machine tool remote operation and maintenance platform construction and operation training center, etc.) to participate in the enterprises' R & D projects and expand their horizons, effectively integrate entrepreneurial ability and innovation consciousness, provide students with good practice venues, and promote the normal development of entrepreneurship and innovation practice activities<sup>[3]</sup>. In addition, the school can also establish students' sense of team responsibility by building practice teams. While further helping students to better adapt to the future social practice learning content, we should help them to enhance personal innovation consciousness, improve their ability to resist pressure and learning ability, let students learn the way of self-decompression and team decompression in the complex social relations, play each social role well, and bear all kinds of pressure, so as to realize the maximization of self-worth.

Secondly, social practice activities should be carried out through various channels. In the development of entrepreneurship and innovation implemented by enterprises and schools, in addition to the continuous cultivation and development of students' practical ability, we should also pay attention to the combination of practical teaching system and ideological and political education to enhance students' sense of social responsibility. By establishing multi-channel social practice activities and increasing the coverage of campus practice area, the school can create a good campus atmosphere and learning environment for students' innovation and entrepreneurship, which not only helps to cultivate and develop students' innovation and entrepreneurship awareness, improve their entrepreneurship ability, but also meets the environmental atmosphere requirements of modern talent development, and improves the effect of innovation awareness and entrepreneurial ability training, so as to achieve the teaching goal of innovation and entrepreneurship education. In addition, the school should also pay attention to the growth of students' moral education ability, combine the practical training system with the ideological and political education closely, let the students accept the overall ideological education of Marxism, improve their revolutionary spirit and patriotic consciousness, promote the development of their entrepreneurial ability, and contribute all their strength to the national economic construction and social activities of poverty alleviation, and promote students' sense of social honor and disgrace.

### **2.3 Build an International Exchange Platform**

In addition to the above domestic innovation and entrepreneurship awareness training and construction, we should also actively build an international exchange platform (such as exchange teaching of Chinese and foreign teachers and students, joint research and development cooperation projects, etc.). Through the communication and exchange with foreign senior college students, domestic students can broaden their horizons, improve their innovation awareness and thinking ability, and promote the international development of innovation and entrepreneurship awareness and ability.

## **3. Effect of Setting up Innovation and Entrepreneurship Education System under the Background of New Engineering**

### **3.1 Students' Employment Ability is Improved**

The development of "innovation and entrepreneurship" teaching concept greatly improves the employment rate and social competitiveness of college students, speeds up the transformation of compound talents in the new situation, and meets the needs of modern development. According to the employment data of college students in recent three years, the employment rate of college graduates has been upgraded from 93.5%, 94.5% and 96.4% to 98.3%, 98.8% and 99.3%, which has effectively solved the social employment problem of college students. As a result, students' satisfaction with the school, innovation and entrepreneurship ability, monthly salary, employment competitiveness index, employment status satisfaction and other indicators rank first in China's

higher vocational colleges, which has been unanimously affirmed by relevant national education departments and followed by other school education institutions.

### **3.2 Students' Achievements in Entrepreneurship and Innovation Have Increased Significantly**

Firstly, the funds for innovation and entrepreneurship of schools have increased significantly, and the amount of invention research projects, project contracts, patent authorization and patent achievements between schools and enterprises has also increased continuously, providing important human resources and support for complex and innovative talents for China's future social and economic renewal and reform. It has great significance for the further improvement of China's social market economic competitiveness.

## **4. Conclusion**

In a word, the construction of innovation and entrepreneurship education system under the background of new engineering is the inevitable result of social and economic development and the rapid change of the times, and it is a major reform and innovation of China's educational philosophy and thinking<sup>[4]</sup>. Based on the deepening of education reform, colleges and universities actively cooperate with major enterprises to carry out innovation and entrepreneurship education projects to meet the needs of current social education development. It has become an inevitable development trend to improve China's social and economic competitiveness, playing a very important role in cultivating innovative and compound talents under the new situation. Therefore, the cross integration of the teaching contents of various subjects and the R & D objectives of enterprise projects in new engineering not only strengthens the cooperation between schools and enterprises, but also helps to build the innovation and entrepreneurship education system, and promotes the comprehensive cultivation and development of students' innovation consciousness and entrepreneurship skills in Chinese colleges and universities.

## **References**

- [1] Xu Chunming, Xing Aini, Wang Can, Zou Mengyuan. Research on the Construction of Innovation and Entrepreneurship Education System in Application-oriented Universities under the Background of New Engineering [J]. *Fortune Today*, no.11, pp.184-185, 2020.
- [2] Zhang Fengtao. Reform and Improvement of Innovation and Entrepreneurship Education System in Local Universities under the Background of New Engineering [J]. *Journal of Changchun Normal University*, vol.39, no.02, pp.126-128, 2020.
- [3] Sun Minglin. Reform of College Students' Innovation and Entrepreneurship Education System under the Background of New Engineering Construction [J]. *Theoretical Research and Practice of Innovation and Entrepreneurship*, vol.2, no.21, pp.84-85, 2019.
- [4] Luo Jianjian. Research on Innovation and Entrepreneurship Education System under the Background of New Engineering -- Based on the Practice of Changzhou Information Technology College [J]. *Journal of Changzhou Information Technology College*, vol.18, no.03, pp.1-4, 2019.