

Research on the Multi-dimensional Training Mode of Innovative and Entrepreneurial Talents in Network Security Direction

Zhao Guosheng¹, Jian Wang², Liao Yiwei¹, Fu Baojun¹, Li Shiming¹

¹College of Computer Science and Information Engineering, Harbin Normal University, Harbin, Heilongjiang, 150025, China

²School of Computer Science and Technology, Harbin University of Science and Technology, Harbin, Heilongjiang, 150080, China

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Abstract: This paper discusses the challenges facing the cultivation of innovative and entrepreneurial talents. Based on our network security direction graduate analysis multidimensional training mode, with "double top" construction as an opportunity, to industry demand oriented, the innovative ideas, entrepreneurial education under the background of new engineering graduate talent training process, relying on the enterprise collaborative education joint laboratory, university science park the gen space platform, explore based on research fusion, enterprise cooperation under the background of innovative entrepreneurial graduate talent training mode.

1. Introduction

In order to enhance the entrepreneurial gene and innovative spirit of hundreds of millions of people and stimulate their creativity, Li Keqiang put forward the slogan of "mass entrepreneurship and innovation" in September 2014. In September 2018, The State Council issued the Opinions on Promoting High-quality Development of Innovation and Entrepreneurship and Building an upgraded version of Mass Entrepreneurship and Innovation. Incomplete statistics, from the central level has issued at least 22 related documents to promote innovation entrepreneurship goals, from the local government level of relevant supporting policies emerge in endlessly, such as: "the space", "a" guest ", " double gen star ", " spirit ", " university double garden ", " collaborative innovation center ", " business base "and" business incubators ", etc. In recent years, the Department of Higher Education of the Ministry of Education has continuously carried out industry-education cooperation and collaborative education projects. National competitions such as the "Internet +" College Students 'Innovation and Entrepreneurship Competition and the "Challenge Cup" China College Students' Business Plan Competition are also in full swing^[1].

2. Challenges faced by cultivating innovative and entrepreneurial talents

The traditional graduate training mode is mostly built with a one-dimensional model based on

the discipline as the logic, which is difficult to cultivate excellent graduate talents who can adapt to the new engineering background such as "big engineering" and "cross-border integration". The demand of new engineering majors is closely related to various industries, and has a strong purpose and timeliness^[2]. Universities have also kept pace with The Times and developed related emerging majors, such as data science and big data technology, Internet of Things engineering, intelligent science, cyberspace security and artificial intelligence. Different majors correspond to different training modes. For example, the talent training mode of intelligent science includes three dimensions: the application field, the industrial value chain and the level of intelligence. The fourth dimension is the characteristic dimension, which should not only include the basic needs of talent training, but also include the discipline characteristics of universities themselves.

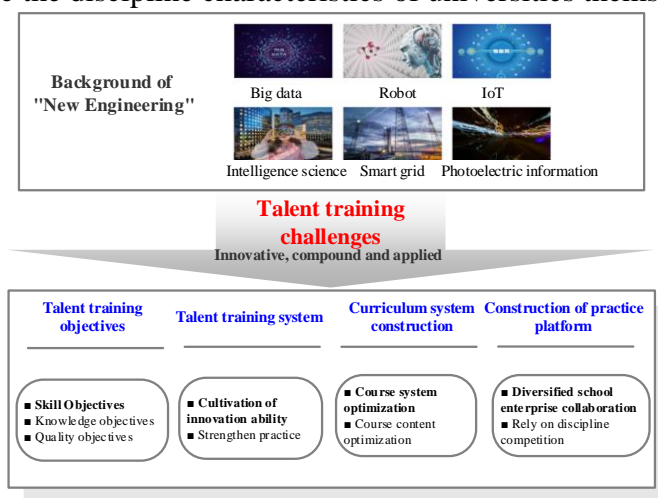


Figure 1 Challenges faced by cultivating innovative and entrepreneurial talents

There are still many challenges in the process of cultivating innovative, compound and applied innovation and entrepreneurship ability. Based on the training objectives of innovation and entrepreneurship, how to reasonably set the training goals of entrepreneurial talents, how to strengthen the training system of innovative talents, how to build and optimize the entrepreneurship curriculum system, and how to coordinate the school and the enterprise in the innovation and entrepreneurship practice platform. The challenges faced by cultivating innovative and entrepreneurial talents are shown in Figure 1.

3. Implementation steps of innovation and entrepreneurship multi-dimensional training mode

Combined with the training objectives of new engineering talents, through the construction of the training system of innovative and entrepreneurial talents, curriculum system and practical teaching platform of network security under the background of new engineering, it pays attention to the cultivation of multi-dimensional and multi-angle graduate innovation and entrepreneurship ability, and the implementation route of multi-dimensional training mode is shown in Figure 2. In various forms such as new planning, simulation and practice of innovation and entrepreneurship education courses, the innovation and entrepreneurship consciousness, knowledge and skills are cultivated for the postgraduates of computer science, especially in the direction of network security under the background of new engineering, and runs through the whole process and cycle of talent training. In order to students under the new engineering concept, have a solid theoretical basis, advanced innovation consciousness and interdisciplinary integration ability, improve for the new engineering professional master talent training quality, and the training mode in practice effect feedback correction, with spiral to improve the talent training system, and then recommended in

engineering professional.

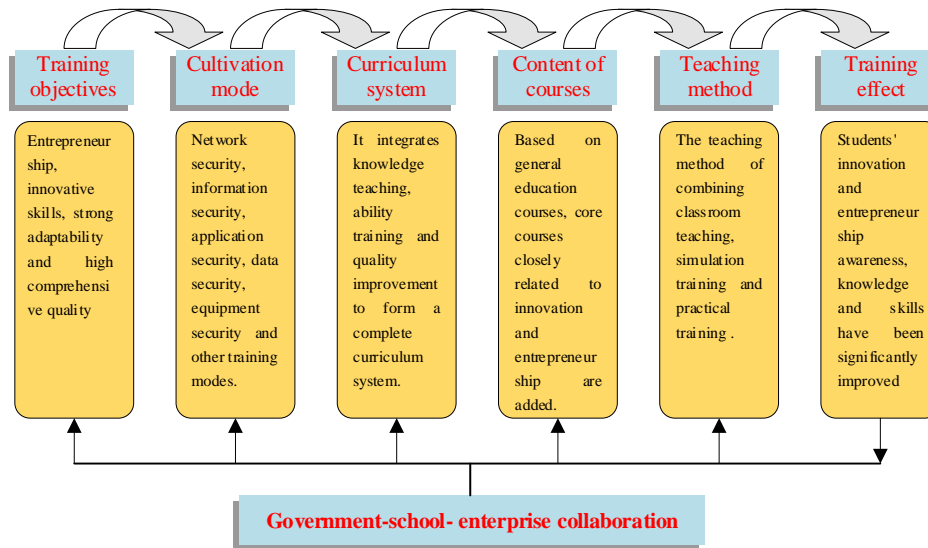


Figure 2 Implementation steps of the culture mode

3.1 Study on culture objectives.

With the educational concept of "innovative entrepreneurship" as the main line, we will build an innovative and entrepreneurship education system, promote the multi-dimensional training mode of characteristic talents such as network security, and gradually get rid of the shackles of backward education concepts.

3.2 Study on culture system.

First, establish a hierarchical graduate training system; secondly, strengthen the practice of school-enterprise cooperation, formulate special teaching objectives according to the needs of the network security industry, integrate the required innovation and entrepreneurship genes into teaching activities, and gradually reduce the difficulty of graduate innovation and entrepreneurship.

3.3 Research on curriculum system.

Establish three-dimensional integrated curriculum resources, layered set up integrated curriculum teaching content. Based on the innovative general education of entrepreneurship, professional courses are strengthened, and degree courses are integrated to gradually solve the problem of weak innovation and entrepreneurship knowledge in the existing curriculum system.

3.4 Practice platform research.

Diversified school-enterprise collaborative education modes should be built through collaborative education projects, practical training bases, maker space and platform sharing. Relying on the innovation and entrepreneurship discipline competition, we will enhance the entrepreneurial gene and innovative spirit of graduate students, stimulate students' creative vitality, and gradually enhance the multi-party guarantee mechanism of innovation and entrepreneurship.

4. Innovation and entrepreneurship of multi-dimensional collaborative training mode

Innovation and entrepreneurship education is a new dimension that integrates into the core functions of colleges and universities. The essence is still education, but the ability cultivation with creativity, execution and leadership as the core, as well as the knowledge teaching with cross-boundary rest as the core^[3]. Through government coordination, we will establish a multi-channel and multi-level school-enterprise cooperation mechanism, including schools, enterprises, majors and courses, improve the whole process of enterprises deeply participating in the training of innovation and entrepreneurial talents, and establish a trinity of multi-dimensional training mode of innovation and entrepreneurship through knowledge transmission, innovation ability cultivation and entrepreneurship shaping. For innovative entrepreneurial needs, set up a professional construction steering committee, jointly revised training plan, based on actual engineering case implementation of classroom teaching, based on actual engineering environment guide innovative entrepreneurship practice, based on practical engineering problems to guide graduate thesis, based on complex engineering project collaborative organization discipline competition and interdisciplinary integration of creative, innovation and entrepreneurship fusion platform, etc. Schools and enterprises jointly build and share characteristic high-quality teaching resources. For example, schools and enterprises jointly build innovation and entrepreneurship education resources, such as innovation and entrepreneurship practice education center, entrepreneurship teaching demonstration center, science competition platform, high-quality resource sharing courses, and planning of high-quality teaching materials. According to the national needs, enterprises will timely issue collaborative education project guidelines to guide students to solve problems in the way of entrepreneurs, combined with the knowledge learned, and with innovative technical means.

Introduce OBE ideas, and build general innovation and entrepreneurship education courses, professional courses, training programs and competitions, so that innovation and entrepreneurship education covers the whole process of education^[4]. Around the challenging problems in the professional field, it is necessary to break through the boundaries of subject knowledge and realize the education and training mechanism of interdisciplinary exploration. Entrepreneurs and investors who have rich practical experience should also enter the education ecology. Professional teaching integrates the required knowledge and skills into teaching activities according to the needs of the industry. A diversified school-enterprise collaborative education model is established through collaborative education projects, training bases and platform sharing. The teaching system becomes more multidimensional and multi-level through the teaching practice platform, innovation practice platform, and student entrepreneurship platform. The above changes have improved the practical teaching conditions.

5. Conclusion

Taking the graduate training of network security as an example, we will establish a multi-dimensional training mode of innovation and entrepreneurship in a trinity of knowledge transmission, innovation ability training and entrepreneurship shaping. Based on the general teaching course of innovation and entrepreneurship, colleges adds integrated core courses closely related to innovation and entrepreneurship; establishes an integrated and shared curriculum resource platform, adopt diversified teaching methods, and combines classroom teaching, simulation training and practical training. So this can stimulate students' entrepreneurial ability, and organize students to participate in various college students' innovation and entrepreneurship competitions. Through the school-enterprise collaborative education project, students are guided to make full use of the

joint laboratories and practice bases jointly built by the school and the enterprise to enhance their safety skills and awareness of innovation and entrepreneurship.

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