

Research on the Construction and Development of Innovation and Entrepreneurship Education Bases in Engineering Colleges

Jipeng Zhao^{1,*}, Dongxu Liu²

¹Organization Department, North China Electric Power University, Baoding 071003, PR China

²Department of Economics and Management, North China Electric Power University, Baoding 071003, PR China

Corresponding author: Jipeng Zhao
E-mail address: 138286331@qq.com ().

Abstract: The article first elaborates the ideas and objectives of the construction of innovation and entrepreneurship education bases in engineering universities, then analyzes the construction contents of innovation and entrepreneurship education bases in engineering universities, and finally puts forward strategies for the construction of innovation and entrepreneurship education bases in engineering universities, including optimizing organizational leadership and perfecting the joint management mechanism, increasing capital investment, strengthening innovation and entrepreneurship education funding protection, strengthening supervision and evaluation, and promoting the implementation and implementation of the main responsibility.

Keywords: Engineering colleges, innovation and entrepreneurship education base, construction and development

INTRODUCTION

Innovation and entrepreneurship education is a very practical subject. In order to cultivate students' innovative spirit and entrepreneurial practical ability, the construction of innovative and entrepreneurial education practice base is very necessary. The construction of the innovation and entrepreneurship education practice base should incorporate the practical teaching of innovation and entrepreneurship courses into the talent training programs of various disciplines; combine with the professional training base; adhere to the principle of sharing among multiple schools; have clear objectives and goals. At the same time, the practice base should establish a student-oriented concept, strengthen management, standardize practical teaching, and serve students' innovation and entrepreneurship scientifically and efficiently [Yan, 2018].

After submitting recommendations and expert panel review, the Ministry of Education selected the first 50 "national universities to practice and educate innovation and entrepreneurship bases", including 33 ministries and colleges including Renmin University of China, 7 local undergraduate colleges, and 2 Higher vocational colleges and an incubator institution, as well as 2 local governments including Huanggang City Government and 5 state-owned enterprises. According to the different leading departments, the base is divided into four types: local government-led, industry-enterprise-led, higher school-led, and grassroots community-led.

Du Yubo, deputy secretary and deputy secretary of the Party Leadership Department of the Ministry of

Education, said that colleges and universities have practiced all aspects of education and innovation and entrepreneurship effectively and achieved remarkable results. In particular, Huanggang City, relying on university research institutes and central enterprises, has created a new model of practical education and innovation and entrepreneurship, which has initially achieved a win-win situation among enterprises, localities and university institutes, and has formed a set of lessons for reference throughout the country. .

Du Yubo said that the Ministry of Education will focus on the following five aspects: collaborative education mechanism, internship training, innovation and entrepreneurship education, providing policy support, strengthening organizational leadership, and practically enhancing college students' innovative spirit, entrepreneurial awareness and innovative entrepreneurial capabilities. In particular, the implementation of the innovation and entrepreneurship credit system, the establishment of innovation and entrepreneurship credits, relaxation of school breaks, and retention of entrepreneurship. At the same time, colleges and universities are encouraged to set up innovation and entrepreneurship scholarships, entrepreneurship assistance funds and guidance funds, and extensive introduction of social capital and venture capital to support college students' innovation and entrepreneurship.

At present, college education should actively serve the needs of industrial transformation and upgrading and innovation-driven development. To this end, various colleges and universities actively formulate measures, carry out theoretical research and reform practice, promote the integration of industry and

education, school-enterprise cooperation, improve teaching management, teaching evaluation and quality monitoring and other construction. In order to cultivate the innovation and entrepreneurship ability of college students, [Han, et al., 2019] explains how to improve the innovation and entrepreneurship ability of college students by building an innovation and entrepreneurship platform from four aspects. [Zhang, et al., 2019] based on the characteristics of the school-government-enterprise cooperation model, combined with the educational base construction experience and the current status of model application, put forward the reform and exploration of innovation and entrepreneurship teaching in the development of colleges and universities under the school-government-enterprise cooperation model. [Pan, 2019] combines the learning ability and job-seeking intention of college students to explore the possibility of cooperating with Asian universities to set up cross-border e-commerce majors in the context of free trade zones, and proposes the idea of training innovative and entrepreneurial cross-border e-commerce merchants. [Li, 2018] proposes to build college students' entrepreneurship education base, strive to provide favorable conditions for college students' entrepreneurship, and gradually build a scientific and advanced college entrepreneurship education system. [Xia, 2019] proposes a mixed ownership model of colleges and enterprises to achieve innovation in innovative entrepreneurship education models.

THOUGHTS AND OBJECTIVES OF CONSTRUCTION OF INNOVATION AND ENTREPRENEURSHIP EDUCATION BASE IN ENGINEERING COLLEGES

Innovation and entrepreneurship education generally refers to the cultivation of talents with basic entrepreneurial qualities and innovative personalities. The school's innovation and entrepreneurship education is not only education to cultivate students' entrepreneurial consciousness, innovative spirit and entrepreneurial ability, but also to cultivate socially oriented education for groups that already have entrepreneurial awareness, and to train innovative thinking and entrepreneurial ability in stages and stages. In other words, innovation and entrepreneurship education is to teach students the skills of true entrepreneurship, exercise students' thinking ability, tap students' innovative spirit and improve students' level of innovation and entrepreneurship, so that students can stand out under the general trend of rapid development of innovative industries. It has a guiding role in students' career planning and career development direction.

The development of innovation and entrepreneurship education is an inevitable

development trend of the times. With the development of society, most companies have higher requirements for graduates' innovation and entrepreneurship capabilities, but the existing training model can no longer allow students to innovate to a certain extent. Entrepreneurial ability has been improved. Therefore, the addition of new engineering subjects has provided a new way for China's undergraduate colleges to cultivate students' innovative and entrepreneurial ability, and has delivered excellent talents for the country's development strategy needs.

Co-ordinate a series of related professional innovation and entrepreneurship, creative incubation, quality development and other activities to make innovation and entrepreneurship more effective in organization, more coordinated in system, and more standardized in behavior. Actively integrate the resources inside and outside the school, by strengthening the training equipment and venue construction of the existing innovation and entrepreneurship training laboratory, make full use of the resources of the off-campus internship training base, the overall planning, the construction function is perfect, meet the internship practice of electronic information related professional students Innovative training engineering professional center for training. Through the combination of colleges and enterprises, professional competitions and other means to strengthen students' practical ability in innovation and entrepreneurship engineering, to provide support for students of electronic information majors who are committed to "mass entrepreneurship and innovation", through project-based operations, to help innovation and entrepreneurship. Carry out a full range of exploration and experiment in the concept, method, model, mechanism and other aspects of the cultivation of electronic information innovative talents, and strive to build a characteristic demonstration system for the cultivation of electronic information innovative talents in provincial general universities.

CONSTRUCTION CONTENT OF INNOVATION AND ENTREPRENEURSHIP EDUCATION BASE IN ENGINEERING COLLEGES

Construction and improvement of facility conditions

Colleges should further increase their efforts, continuously optimize the campus innovation training venues and innovation training equipment resources, deepen cooperation with excellent entrepreneurial teams, continuously develop high-quality alumni entrepreneurial success resources, make full use of off-campus innovation and entrepreneurship training

venues, and build into capable An electronic information practice site that satisfies large-scale and multiple professional students for innovative practice. The basic facilities and supporting facilities are complete. It can share large-scale teaching and research instruments and equipment in related disciplines, and has rich digital resources for electronic information innovation training and convenient The scientific research information retrieval and query conditions have the ability to receive students' electronic information innovation training throughout the year (including holidays). The total number of students participating in the training every year is not less than 5,000.

Instructor team building

Strengthen the construction of the team of innovation and entrepreneurship guidance teachers, and build a team of full-time guidance teachers with reasonable structure, high quality, dedicated work, and relatively stable electronic information innovation training. Encourage high-level teachers to invest in college students' innovation training and guidance, select and send teachers to participate in innovation and entrepreneurship training and go to enterprises to exercise, to improve teachers' awareness and ability of innovation and entrepreneurship; formulate a sound guidance teacher selection and management method, improve teacher assessment system, mobilize full-time teachers The enthusiasm of innovation and entrepreneurship.

Construction and improvement of operating mechanism

Explore and implement the operation and management mode of the electronic information innovation training center combining the two-level management of the school and the students' independent management, formulate complete rules and regulations, and strictly manage. Universities and departments formulate policies, funds, personnel and other safeguards to ensure the open operation of the center.

Development and construction of training projects

Gradually establish a stable electronic information innovation training project system, through school-enterprise cooperation to bring into the company's actual projects, training instructor scientific research transformation projects and student innovation and entrepreneurship projects under the guidance of instructors, and many other forms, and widely introduce project sources in many ways. In order to ensure the normal progress and healthy development of the center's innovation and entrepreneurship projects, the base will obtain government funds, project funding for practical teaching in universities

and colleges through project development declarations, practical guidance for teachers' scientific research transformation projects and the introduction of actual project related funding, student independence innovate project-related costs and other channels to form a diversified project funding mechanism to ensure sufficient funding for training projects.

Operation and management of innovation and entrepreneurship education base

The base will implement an operation and management model that combines two levels of management of the college and the students' independent management. It will be open to related innovative training activities for students majoring in electronic information and other majors throughout the college, and will formulate scientific and reasonable rules and regulations to strictly regulate management. The main management work includes the establishment of a leading group for the construction of the engineering practice center, which is responsible for the guidance, coordination and monitoring of the construction of the center; formulate scientific and reasonable rules and regulations and strictly manage the rules in accordance with the rules and regulations; management.

Focus on the characteristic construction of innovation and entrepreneurship bases

Focus on guiding students to participate in professional competitions in disciplines to promote learning through competitions, and strengthen students' practical and innovative abilities. Teachers guide electronic information engineering students to participate in the National College Students Electronic Design Contest, the National Educational Robot Contest, the National Challenge Cup Extracurricular Academic Works Contest, and the College Student E-Commerce Contest, participate in teacher technology development projects, and participate in the development of enterprise projects.

Actively carry out school-enterprise cooperation

The base vigorously builds on-campus experimental training venues and strengthens students' practical ability. At the same time, it also actively contacts with enterprises and strengthens cooperation. By taking students to visit related enterprises and participate in project training, it hires enterprise elites to conduct classroom guidance and development in colleges and universities. Lectures and other forms to effectively strengthen school-enterprise cooperation, improve students' practical ability and accumulate innovation and entrepreneurship experience.

CONSTRUCTION STRATEGY OF INNOVATION AND ENTREPRENEURSHIP EDUCATION BASE IN ENGINEERING COLLEGES

Optimize the organization and leadership, and improve the work mechanism of joint management

Colleges and universities should further enhance the understanding of the importance of deepening innovation and entrepreneurship education reform, incorporate innovation and entrepreneurship education reform into the annual work plan, organize at least one special meeting every semester, study and formulate relevant policies, and coordinate to solve the practical problems faced by colleges and universities innovation and entrepreneurship education reform Mobilize all forces to actively participate in the reform of innovation and entrepreneurship education, and improve the joint management and coordination linkage mechanism. Establish and improve the "university-college-department-class" innovation and entrepreneurship education work network to ensure the seamless connection between the two levels of innovation and entrepreneurship education in colleges and colleges, and the smooth and efficient channels of information transmission and feedback.

Increase capital investment and strengthen funding guarantee for innovation and entrepreneurship education

In order to provide funding for the steady progress of innovation and entrepreneurship education reform, colleges and universities need to actively seek social sponsorship and donations, encourage various social organizations and individuals to set up innovation and entrepreneurship funds, and provide financial support for innovation and entrepreneurship projects and teams. Make full use of the advantages of disciplines and professions, strengthen communication with the government and industry companies, actively connect and integrate innovation and entrepreneurship education resources inside and outside the school, raise funds through multiple channels, establish and improve incentive mechanisms, encourage teachers to carry out innovation and entrepreneurship education research and reform, and explore the integration of innovation and creativity effective ways to reasonably determine the workload and salary standards of students' innovation and entrepreneurship projects and team guidance, and further mobilize teachers' enthusiasm in participating in innovation and entrepreneurship education.

Strengthen supervision and evaluation, promote the implementation and implementation of the main responsibility

Colleges and universities should incorporate the requirements of deepening innovation and entrepreneurship education reform into the target management assessment and evaluation system of colleges and universities, and include the work of participating in innovation and entrepreneurship education reform, guiding students' innovation and entrepreneurship practice, and providing innovation and entrepreneurship consulting services into teacher professional and technical job evaluation, promotion and performance assessment. Evaluation System. At the same time, colleges and universities regularly organize and carry out supervision and assessment of innovation and entrepreneurship education, and select and commend a group of advanced innovation and entrepreneurship education units, excellent entrepreneurs, innovative teams, and advanced individuals. Establish and improve the incentive mechanism for innovation and entrepreneurship education to ensure the implementation and implementation of various tasks of innovation and entrepreneurship education reform in colleges and universities.

CONCLUSIONS

This article closely integrates the reality of engineering colleges and universities, closely focuses on the current key tasks and outstanding problems in important teaching links, actively carries out theoretical research and reform practice, and explores the construction model of innovative and entrepreneurial education bases. Through the analysis and reform of the talent training model, teaching content and teaching methods, and then promote the integration of industry and education and school-enterprise cooperation, to achieve the goal of improving teaching management, teaching evaluation and quality monitoring, and promoting the cultivation of high-level undergraduate talents.

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