

Research on the Integration of Professional Education and Innovation and Entrepreneurship Education in Engineering Colleges

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Abstract: With the continuous advancement of higher education reform, "innovation and entrepreneurship education" has become a hot research topic. According to literature research, the current domestic theoretical research on the integration of innovation and entrepreneurship education is still in the "primary stage", mainly to clarify the importance and necessity of the integration of new engineering professional education and innovation and entrepreneurship education in the process of high-level university construction in universities. The current research status, pointed out the existing problems and put forward ideas and methods to solve the problems. According to the current progress of literature research, the research on the integration of new engineering professional education and innovation and entrepreneurship education for the construction of high-level universities should focus on the integration of the two objects and the summary of practice, and explore a new talent training model for the integration of the two.

Keywords: Engineering colleges, professional education, innovation and entrepreneurship education, integrated development

INTRODUCTION

"Innovation and Entrepreneurship Education" aims at cultivating talents with basic entrepreneurial qualities and pioneering personalities, and cultivates students' entrepreneurial awareness, innovative spirit, and innovative entrepreneurial ability [Lin, 2017]. Innovation and entrepreneurship education is essentially a practical education. On August 1, 2012, the General Office of the Ministry of Education issued the "Basic Requirements for Entrepreneurship Education in General Undergraduate Schools (Trial)", proposing that innovation and entrepreneurship education in colleges and universities is important to improve the quality of talent cultivation, promote employment and comprehensive development of college students Ways and measures. In the summer of September 2014, Prime Minister Li Keqiang proposed "Mass Entrepreneurship and Innovation" at the Davos Forum. Subsequently, the State Council issued "Opinions on Further Enhancing Employment and Entrepreneurship in the New Situation" and "Deepening the Innovation and Entrepreneurship Education in Higher Schools" "Implementation Opinions on Reform", "Further Accomplishing the Division of Work on Key Tasks for Employment and Entrepreneurship in the New Situation" and other documents. "Public entrepreneurship and innovation" has become a hot topic in the government, universities, society, students and so on. The country pays attention to innovation and entrepreneurship

education from top to bottom [Gao., 2017]. College students, as an important part of "mass entrepreneurship and innovation", are a vigorous growth force for innovation and entrepreneurship. Through innovation and entrepreneurship education for college students, innovative talents can be cultivated for the society. And effectively realize the "integration of industry and academia", promote the transformation of scientific research results, and inject more vitality into social and economic development [Wang, 2018]. Innovation and entrepreneurship education and the cultivation of students' innovation and entrepreneurship have become an important part of college student training and education [Zhai, et al., 2018].

In recent years, China's colleges and universities have achieved remarkable results in innovation and entrepreneurship education, but there are still some universities that regard innovation and entrepreneurship education as education for a small number of students with entrepreneurial aspirations and entrepreneurial ideals, and have not integrated innovation and entrepreneurship education into the entire talent training system. The status of "two skins" in innovation and entrepreneurship education and professional education. Promoting innovation and entrepreneurship education in colleges and universities is an urgent need for my country to implement an innovation-driven development strategy and promote economic quality and efficiency upgrades. It is also an important measure to promote

comprehensive reform of higher education and promote higher-quality entrepreneurship and employment for college graduates. Therefore, colleges and universities should carry out innovation and entrepreneurship education throughout the whole process of college student cultivation, and strive to achieve the organic integration of innovation and entrepreneurship education and professional education [Yu, et al., 2017].

Organic integration is inevitable. Promoting the organic integration of innovation and entrepreneurship education and professional education to meet the needs of economic and social development, in line with the law of talent training, and also reflects the important functions of universities. First of all, from the perspective of economic and social development, the organic integration of the two can realize the coupling of innovation and entrepreneurship knowledge and professional knowledge, forming a situation of innovation and entrepreneurship with professional knowledge, so that professional knowledge can be more directly and efficiently integrated into social production practices and transformed into economic society [Wang, 2017]. Development momentum. Secondly, from the perspective of talent training, the organic integration of the two is conducive to the comprehensive development of college students, especially to establish an innovative spirit and accumulate human capital. Setting up cross-disciplinary major cross-disciplinary courses in innovation and entrepreneurship education, strengthening innovation and entrepreneurship practice, is conducive to the transformation of talent training from a single discipline to a multidisciplinary fusion, and is conducive to improving the practical ability of college students [Li, et al., 2018]. Finally, from the perspective of university functions, the organic integration of the two is a concentrated manifestation of the university's social service function, which is conducive to promoting academic knowledge to the market and society, and integrating the production, dissemination, and application of academic knowledge with economic and social development.

RESEARCH PROGRESS ON THE INTEGRATION OF PROFESSIONAL EDUCATION AND INNOVATION AND ENTREPRENEURSHIP EDUCATION IN ENGINEERING COLLEGES

In the process of building a high-level university, universities also realize the importance of innovation and entrepreneurship education and new engineering professional education. New engineering professional education and innovation and entrepreneurship education are in full swing. During the process of new engineering professional education and innovation and entrepreneurship education, there are

very With multiple intersections and integrations, innovation and entrepreneurship education is the primary ability requirement for the cultivation of talents in new engineering disciplines. New engineering disciplines put forward higher requirements for innovation and entrepreneurship education. As soon as the construction of new engineering was proposed, domestic scholars noticed the connection between new engineering education and innovation and entrepreneurship education. It should be pointed out that the research on the combination of new engineering education and innovation and entrepreneurship education for the construction of high-level universities has not yet aroused in China. Widely concerned, especially for the deep integration of new engineering professional education and innovation and entrepreneurship education for the construction of high-level universities, no one has studied. Searched on CNKI using "Innovation and Entrepreneurship Education" and "New Engineering Professional Education" as keywords, topics, and article titles, only 10 related documents were obtained, and "Innovation and Entrepreneurship Education" One of the three or four literatures with keywords as "keywords for new engineering major education", "high-level university construction", and "talent training model" shows that there is a deep integration of new engineering major education and innovation and entrepreneurship education for high-level universities in China. The theoretical research of talent training model is still blank. The research on talent training model of new engineering professional education and innovation and entrepreneurship education is still in the "primary stage". In summary, the existing research mainly focuses on four aspects.

(1) Clarified the importance and necessity of combining new engineering professional education and innovation and entrepreneurship education in the process of high-level university construction

Innovation and entrepreneurship education is the primary ability requirement for the cultivation of new engineering construction talents. The ability of innovation and entrepreneurship is an indispensable ability of engineering talents in the process of new engineering construction. Entrepreneurship is the foundation for the formation and development of new industries and the basic capabilities that industries and industry leaders must possess. Innovation is the main driving force for leading and driving the development of industry and economy, the guarantee for the industry and industry to develop and win market competition, and the core that the industry and industry's engineering and technological backbone must have. The construction of new engineering disciplines has promoted the development of innovation and entrepreneurship education in colleges and universities, perfected the personnel training mechanism, the construction of teaching staff, and the

diversified system of innovation and entrepreneurship in colleges and universities.

(2) Analyzed the current situation of the integration of new engineering professional education and innovation and entrepreneurship education in the process of high-level university construction

Once the concept of new engineering construction was put forward, some domestic scholars noticed the connection between new engineering construction and innovation and entrepreneurship education, but innovation and entrepreneurship education under the threshold of new engineering has not attracted widespread attention in China. Compared with the series of education, foreign engineering innovation and entrepreneurship education is in full swing, and a series of academic research results have been produced on the basis of practice. Some scholars pointed out that the "new engineering" background has little theoretical research results and weak practical teaching effects. Innovation and entrepreneurship education has not played the role of tapping entrepreneurial potential, stimulating entrepreneurial interest, igniting entrepreneurial enthusiasm, and enhancing entrepreneurial ability.

(3) Pointed out the problems in the process of talent training in the combination of new engineering professional education and innovation and entrepreneurship education in the construction of high-level universities

At present, there is insufficient emphasis on innovation and entrepreneurship education, and it is not tightly integrated with professional education. It has not well penetrated the target requirements and content system of innovation and entrepreneurship education into the talent training target system. At the same time, there are also problems in the relatively weak strength of innovation and entrepreneurship teachers, the lack of awareness of innovation and entrepreneurship education, the lack of high-quality innovation and entrepreneurship instructors, and the immaturity of the innovation and entrepreneurship curriculum system.

(4) Discussed and proposed the contents, countermeasures and methods of the combination of new engineering professional education and innovation and entrepreneurship education in the process of building high-level universities and talent training

Under the background of new engineering construction, innovation and entrepreneurship education should be deeply integrated with ideological and political education. Explore the perfection of innovative entrepreneurial talent training model based on innovative engineering education concepts, deepen the integration of city and school, realize economic growth and industrial upgrading, build a new engineering talents innovation and entrepreneurship training curriculum system,

construct innovative entrepreneurship curriculum system implementation strategy, etc.

ANALYSIS ON THE PROGRESS OF THE INTEGRATION OF PROFESSIONAL EDUCATION AND INNOVATION AND ENTREPRENEURSHIP EDUCATION IN ENGINEERING COLLEGES

Through the accumulation and analysis of the above data, relevant researches have clearly discussed the necessity and importance of the combination of new engineering professional education and innovation and entrepreneurship education in the process of talent training in the construction of high-level universities [Shao, et al., 2017]. In the process of building a high-level university, there is also some analysis and research on the current situation of the combination of new engineering specialty education and innovation and entrepreneurship education in the process of talent training, and the combination of new engineering specialty education and innovation and entrepreneurship education in the process of talent training [Li, et al., 2018]. There are few related studies on the content, countermeasures and methods, and there is not enough research to form a complete system, which is mainly manifested in the following three aspects.

(1) There are relatively many individual object studies on the talent training model of new engineering major education and the talent training model of innovation and entrepreneurship education, but the research on the deep integration of new engineering major education and innovation and entrepreneurship education is almost blank

From the perspective of the research object, some scholars pointed out the research on innovation and entrepreneurship education in the context of new engineering construction in colleges and universities. Most of them systematically elaborated the requirements and regulations of the state and education authorities, and basically all discussed the requirements of new engineering construction or innovation and entrepreneurship education separately, and discussed their status, background, significance, importance and necessity. But for the theory and achievements of innovation and entrepreneurship education research under the background of new engineering construction, theoretical research is a strong support for practical teaching. From the perspective of the number of innovation and entrepreneurship education theoretical research results, many schools are currently engaged in new engineering professional education and innovation. The theoretical research on the deep integration of entrepreneurship education needs to be continuously improved, especially the study of the talent training model of the deep integration of new engineering professional education and innovative

entrepreneurship education that requires the construction of high-level universities.

(2) The content of separate object research on the talent training model of the new engineering professional education and the talent training model of innovation and entrepreneurship education is relatively large, and the research on the talent training model of the deep integration of the new engineering professional education and innovation and entrepreneurship education is also blank.

From the perspective of research content, there are many studies on the characteristics of individual objects (new engineering specialty education or innovation and entrepreneurship education), mainly discussing the main research content, methods and related countermeasures of objects (new engineering specialty education or innovation and entrepreneurship education), but new research There are relatively few articles and empirical evidence on the combination of engineering professional education and innovation and entrepreneurship education. Some of these studies have explored the integration of new engineering professional education and innovation and entrepreneurship education in terms of theory and policy, which is conducive to the further development of the national and university top-level design environment. Perfect, promote the cross integration of the two, go hand in hand, is a powerful engine that is conducive to promoting the advancement of a powerful education country in the new era, but there are few elements of theoretical research integration. The possibility of not mentioning the study of the talent training model of the deep integration of new engineering professional education and innovation and entrepreneurship education for the construction of high-level universities.

(3) There are many theoretical studies on monomer policy, and the experience of talent training model of deep integration of new engineering professional education and innovation and entrepreneurship education is still blank. From the effectiveness of the research on monomer policy theory, the current research has made great breakthroughs. For example, some studies have pointed out that the characteristics of new engineering professional education and innovation and entrepreneurship capabilities and the characteristics of students' self-learning ability require us to modify the previous single innovation and entrepreneurship training model, and pointed out that we must start from the new engineering construction requirements to build innovation and entrepreneurship training. Relevant systems, but there is no empirical research and institutional mechanisms for the deep integration of the talent training model for the construction of new engineering professional education and innovation and entrepreneurship education for high-level universities for reference and reference by universities, especially for the new

requirements for the construction of high-level universities. The experience of in-depth integration of engineering professional education and innovation and entrepreneurship education has not yet been researched or summarized by universities.

CONCLUSIONS

According to the current literature research, there are relatively few studies on the integration of new engineering specialty education and innovation and entrepreneurship education for high-level universities, mainly to clarify the new engineering specialty education and innovation and entrepreneurship education in the construction of high-level universities. Combining the importance and necessity, the current research status is elaborated, the existing problems are pointed out, and the method of solving problems is put forward. According to the analysis of the literature, there are relatively more individual studies on innovation and entrepreneurship education and new engineering specialty education, less combined research, more theoretical research, and less practical research.

Since the "Public Entrepreneurship and Innovation" proposed in 2014 and the "New Engineering" professional education in 2017, there have been relatively more studies on the two, but relatively few combined studies. In view of the current research status and the needs of social development for innovative entrepreneurial talents and new engineering professionals, more research should be focused on the integration of new engineering professional education and innovative entrepreneurship education for high-level universities, and more emphasis should be placed on The fusion and practice of the two objects summed up a new model for the cultivation of the two.

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