

Analysis of the Cooperative Education Mode of Local Universities Under the Background of "New Engineering Disciplines" Construction

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Abstract: Based on the background of "new engineering" construction, this article briefly introduces the development status of local colleges and universities, analyzes the significance of the cooperative education mode of local universities under the background of "new engineering" construction, and explores the background of "new engineering" construction. The specific implementation strategy of the cooperative education mode of industry-university cooperation in local colleges and universities.

Keywords: "New Engineering"; Local Colleges and Universities; Industry-University Cooperation; Model Exploration

Introduction

Facing the new mission, new requirements and new challenges of modern education, "New Engineering" will focus on the future of engineering education, and will pay more attention to innovation and cross-field practice. In the development of the new era, the establishment of "new engineering" has been comprehensively deployed. Cultivating scarce talents, cultivating talents who will lead future technologies and industries, and cultivating innovative new engineering talents has become a consensus. Building the "new engineering" field is an important part of deepening the reform of local colleges and universities and cultivating talents. In this case, it needs to be closely integrated with various educational disciplines in order to effectively achieve the educational goals in the "new engineering" field. Establish new engineering talents and cultivate talent models under the cooperative training mechanism. Therefore, in order to cope with the current challenges of network engineering education, Cao Jianfang ^[1] proposed to strengthen school-enterprise industry-university cooperation, build professional case education resources, and improve the engineering practice level of college teachers and "new engineering" talents. Establish a "dual-professional" faculty team, implement a "dual-teacher system", strengthen process evaluation, promote the reform of network engineering professional courses, and promote students' innovation and entrepreneurship. Liu Lili ^[2] pointed out that we should actively respond to the needs of regional economic and social development and enterprise technological innovation. Strengthen the integration of industry and education, the cultivation of school-enterprise cooperation, and the construction of new engineering fields. The goal is to establish applied and technically skilled talents with engineering practical skills and proficient in industrial development. In the context of the establishment of the "new engineering" field, Liu Jia ^[3] discussed that local universities should focus on promoting the reform and innovation of existing engineering fields, promoting the improvement of talent training models, and further strengthening industrial cooperation and university cooperation.

1. The background and characteristics of "New Engineering" construction

1.1 The background of "New Engineering" construction

On February 18, 2017, the Ministry of Education held a seminar on the development strategy of higher engineering education in Fudan universities. The meeting discussed the meaning and characteristics of "new engineering", construction and development

methods. In order to meet the high requirements represented by new technologies, new forms, new models, and new industries, we need to accelerate reform and innovation in the field of engineering technology. On April 8, 2017, the Ministry of Education held a seminar on the construction of the "New Engineering Course" in Tianjin Colleges and Universities. "New and New Engineering" construction goals: to explore the formation of a "new engineering" construction model by 2020, actively adapt to the development of new technologies and new industries, and build a model organization with Chinese characteristics by 2030, transform the engineering education system, and vigorously support the country The innovation and development of the world-class engineering education model in China.

1.2 Construction characteristics of "new engineering"

Based on the "new engineering", the analysis of the characteristics of the current university education model: First, the penetration and integration of liberal arts and sciences, adjustment of the phenomenon of narrow professional scope and deepening of basic theories. Secondly, the purpose of education is to spread knowledge and pay more attention to ability training. Finally, it is about undergraduate engineering education to train basic engineers. The training target is senior engineering and technical personnel, adopting the credit system, and establishing a quality assurance system represented by university evaluation and engineering education certification.

2. The development status of local colleges and universities

The quality of teaching is poor, and the teaching ideas are solidified. Although the current high-quality education reform has made considerable progress, the relevant education situation still exists. Teachers only participate in the process of making teaching tasks, and students only complete tasks so that they can graduate successfully. This kind of education is difficult to guarantee the quality of education, and long-term development will lead to a bottleneck period in the development of universities.

The teaching method is single and the teaching evaluation system is not sound. Teaching method is an important factor to improve the quality of teaching, but the current teaching stage of colleges and universities mainly emphasizes the teaching method of teachers and students' inner self-effect. It leads to lack of participation of students, unable to obtain the basic knowledge of exercise, creates anxiety about learning, and ultimately leads to continuous weakening of education. Since education evaluation is a key link of college education, it directly affects the smooth progress of college education, so it is necessary to use education evaluation as a guide to quickly achieve the goal of education. However, at the current stage of colleges and universities, teachers do not pay attention to the results of teacher evaluation, and the status of professors ultimately leads to educational imbalances.

The stability of majors and curriculum is not strong. Due to the lack of a thorough understanding of the school's relevant professional talent training plan and lecture guidelines, it is impossible to establish a stable professional curriculum based on the school's talent training plan and lecture guidelines. According to employment needs, the employment needs of companies and industries offer professional courses and simplify ability training. The school-enterprise cooperation model has not yet been truly reformed, and curriculum settings, teaching methods, teaching methods and evaluation systems are not able to meet the needs of enterprises well. Changes in the supply and demand market have led to lack of stability and connectivity in majors and courses, which is not conducive to the construction of local universities.

3. The significance of the cooperative education model of local universities under the background of "new engineering" construction

First, we need to innovate the talent training mechanism and improve the quality of talent training. School-enterprise alliance is the only way for local universities to realize the transformation and development of applied technology talent training. In the process of training talents such as classroom training, factory internship, school experimental training, and enterprise internship, the seamless connection and intercommunication of important links must be realized to effectively ensure the continuity and integrity of students at all stages of learning. Establish a complete knowledge system. Through the joint construction of talent sharing bases, off-campus training bases, and the combination of production, education and research, and through talent sharing, process management, performance sharing and responsibility sharing, a close school operation mechanism is formed. Secondly, it provides a good external environment for local colleges and universities to train new engineering and technical personnel. The training of new engineers in local

universities is a system engineering involving multiple subsystems, and the subsystems need to be coordinated. School-enterprise cooperation and cooperative education disciplines have many characteristics. In addition to universities, research institutes and industries also have unique talent training conditions. Resources to train highly innovative talents. To provide support, create synergy, and rely on other themes to jointly achieve the goal of cultivating high-level innovative talents. Finally, promote the training of "dual professional" teachers through the cooperation of local colleges and universities, and promote the training of "dual professional" teachers through school-enterprise cooperation. Introduced highly educated and highly skilled personnel with rich company work experience, mastered production technology, possessed practical training capabilities and provided independent guidance in the establishment of main courses. In order to improve the professional quality of teachers, teachers are encouraged to participate in various forms of continuing education, academic education and modern education skills training. The growth of teachers and the development of industrial production are completely integrated, and combined with professional and synchronized theoretical techniques. (Note: Figure 1-Local university industry cooperation and collaborative education model)

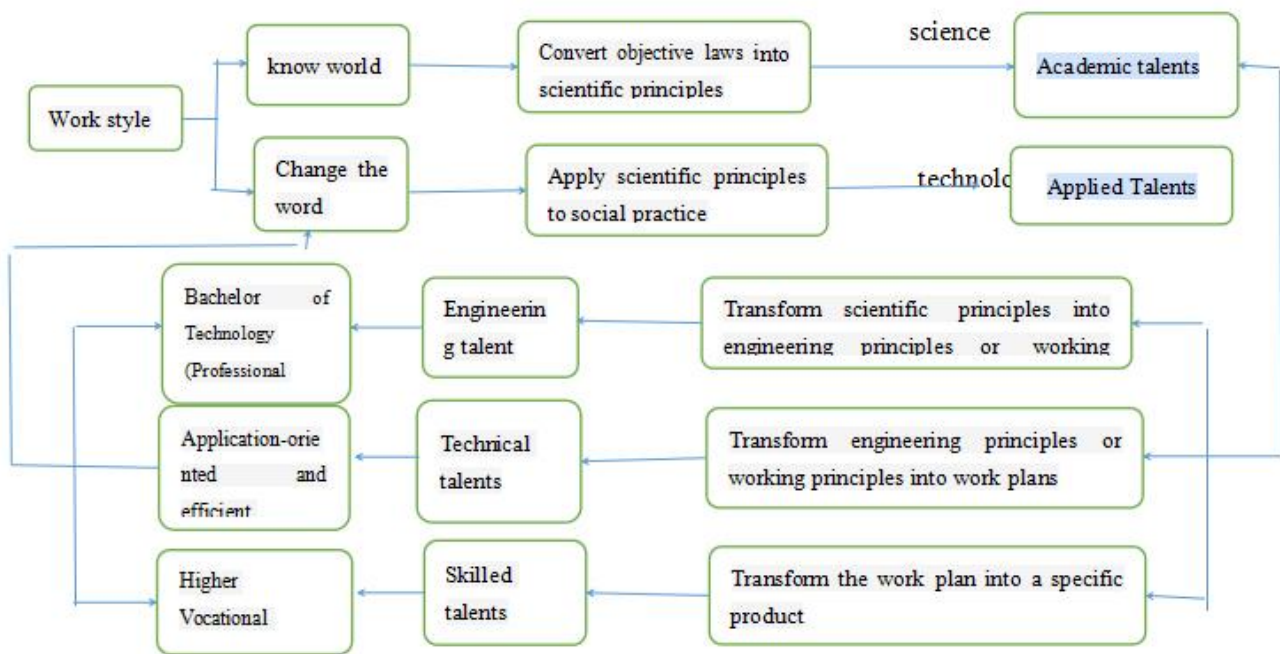


Figure 1 Local university industry cooperation and collaborative education model

Establish a "new engineering subject" and focus on the reform and innovation of the talent training model. With education reform as the core, establish a new talent training model to consolidate the foundation of cooperative education. The school must conduct research and practice in all aspects of the talent training system, including professional settings, practical training, professional certification, etc. Create a vision for the design of a high-quality talent training system. Innovate the multilateral cooperative education model between schools and industries, scientific research institutes, universities and local governments, establish a cooperative talent training model, integrate talent training communities, multidisciplinary participation, production, education and research, and promote school-enterprise cooperation.

Break the barriers of the traditional curriculum system and establish a scientific college curriculum system. In the face of new technologies and new industries, the aim is to cultivate "new engineering" professionals, grasp the latest development trends, and explore the seamless connection of "lean production and intelligent manufacturing" through the construction of new models. Be able to accurately grasp the new ideas, new knowledge, and new technologies in the enterprise, and lay a solid foundation for the construction of a complete course chain. Through the establishment of a multi-disciplinary comprehensive curriculum system, a scientific and reasonable curriculum chain has been formed, and a comprehensive professional core curriculum system aimed at cultivating new technologies, new industries and professional talents has been established. Utilizing the company's excellent resources, a comprehensive electrician training course was carried out to achieve content integration. The arrangement of various courses is

scientific and reasonable, and is completely integrated into a comprehensive course according to the learners' cognitive law, which can adapt to the students' increasing skill needs.

Under the background of "new engineering", local colleges and universities carry out organizational innovation. Organizations are the products of specific social sectors and are independent of the needs of specific social areas. A university is a complex social organization, and its development cannot be separated from society. It is affected by various internal and external factors. In modern society, the relationship between universities and society is gradually strengthening. As a social organization, local colleges and universities must meet corresponding social needs, perform corresponding social functions, and assume increasingly important social roles. In the context of the rapid development of the new engineering field, to adapt to the new requirements of social development, we will continue to deepen our understanding of construction, and strive to adjust and innovate the organizational structure.

Local colleges and universities change their development models to meet the requirements of new forms and innovation-driven development. The internal organization is reorganized according to the advantages of the industry background, regional industry, regional economic development and school operation, and based on the application logic to establish an organizational structure suitable for various openness and internal resource sharing, internal and external establishment of external factors such as government, industry and enterprises , And strive to achieve collaboration and link to achieve application-driven transformation and development. Local colleges and universities must adhere to demand-oriented. On the basis of coordination between schools and departments, local colleges can consider establishing industrial colleges to merge industrial design-related majors into modern industrial design majors, and promote the mutual promotion and mutual promotion of vocational colleges and industrial universities. Function optimization. Provide innovation-driven services for local economic development through academic construction, talent training and applied academic research. The Industrial College receives professional support mainly through professional environment and industry needs, course content and professional level, and professional construction of education. The effective connection with the process production process can better meet the needs of local economic and social development and industrial transformation and upgrading, emphasize the characteristics of school operations, and establish an organizational structure that is highly consistent with organizational functions and organizational goals.

4. Conclusion

In summary, the construction of the "new engineering" field is an important part of deepening the reform of local colleges and universities and cultivating talents. In this case, it needs to be closely integrated with various educational disciplines to achieve the educational goals in the "new engineering" field. Establish new engineering talents and cultivate talent models under the cooperative training mechanism. This article focuses on the reform and innovation of the talent training model, the establishment of a scientific college curriculum system, and the transformation of the development model of colleges and universities, etc., to promote the development of the cooperative education model of local colleges and universities under the background of the construction of "new engineering".

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