

A Study on the Construction of first-class undergraduate courses integrating production and education

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Abstract: With the continuous advancement of education reform and the increasing social demand, higher education has higher requirements for talents. Therefore, higher education should constantly adapt to the changes of society, in order to cultivate outstanding talents in line with the needs of society. The construction of industry-education integrated first-class undergraduate courses is an important part of the reform of higher education, and an important means to realize the organic connection between higher education and enterprises. This paper will discuss the importance and strategy of the construction of the first-class undergraduate course of the integration of industry and education from different angles, so as to provide useful reference for universities in promoting the integration of industry and education undergraduate education.

Key words: Production-education integration; Curriculum construction; Higher education; School-enterprise cooperation

With the economic development of our country, there is an increasing demand for high-quality talents in all walks of life. Therefore, the quality and efficiency of higher education have also become the focus of the masses of people's concern. Under this background, the construction of first-class undergraduate courses integrating production and education has become an important trend of higher education reform.

1. Definition and background of Production-education integration

The integration of industry and education is to closely integrate the needs of universities, enterprises and industries with the country's social, economic and technological development, to become the source of education and teaching reform and productive training, and to realize the organic connection between education and employment. The integration of industry and education is one of the trends of higher education innovation in the new era, and it is a new mode of the combination of higher education and industry. In recent years, Chinese higher education has entered a stage of vigorous development and transformation and upgrading, which also requires universities to follow up and adapt to the changes in a timely manner. However, the traditional undergraduate education curriculum system is relatively lacking in the ability to solve practical problems and the spirit of innovation. Therefore, it is necessary to reconstruct the undergraduate education curriculum system according to the actual needs, pay attention to the organic connection of "knowledge, skill, ability and accomplishment" in the curriculum, and provide talents more in line with the market and industry needs.

2. The research status at home and abroad on the construction of first-class undergraduate courses integrating industry and education

In recent years, with the development of higher education, some provinces begin to pay attention to the construction of first-class undergraduate courses with the integration of industry and education. For example, Guangdong Province has issued the Reform and Development Plan of Undergraduate Education and Teaching in Guangdong Province, which puts forward measures to promote the integration of industry and education and encourages colleges and universities to cooperate with enterprises to set up courses and practice bases. Fujian Province, on the other hand, issued the Measures for the Construction of High-level Undergraduate Programs in Fujian Province, which clearly requires colleges and universities to set up courses relying on industrial resources and practice bases, and encourages teachers to practice in enterprises. South China University of Technology also cooperates with enterprises to build a teaching practice base integrating industry and education to provide more practical opportunities for students. This subject also has some research and practice in the world. For example, top universities such as Stanford University and Massachusetts Institute of Technology in the United States work closely with enterprises to cultivate a large number of talents that meet the market demand. Universities such as the University of Cambridge and the University of Oxford in the UK are also actively cooperating with enterprises to promote the development of courses that integrate industry and education. In addition, Australia, Singapore and other countries are also actively exploring this aspect and have made certain achievements.

3. Research significance of the construction of first-class undergraduate courses integrating industry and Education

The research on the construction of industry-education integrated first-class undergraduate courses is one of the hot topics in the development of higher education at present. Its significance and research value are mainly reflected in the following aspects:

1. To meet the market demand: The construction of first-class undergraduate courses based on the integration of production and education is aimed at cultivating high-quality talents to meet the market demand, helping to understand the current market demand for talents, and exploring how to meet the market demand through the construction of courses based on the integration of production and education, which is more in line with the market positions and talent gaps.

2. Improve the quality of education: The construction of industry-education integrated first-class undergraduate courses organically combines educational resources with industrial resources to make education closer to the actual needs, improve the quality of education and enhance the competitiveness of graduates. The research on the construction of the first-class undergraduate course of the integration of industry and education is helpful to explore how to improve the quality of education, cultivate high-quality talents, and promote the

cultivation of in-depth applied, innovative and compound talents in colleges and universities.

3. Promote industrial development: The construction of industry-education integrated first-class undergraduate courses will organically integrate the resources of universities and enterprises, which is helpful to promote industrial development and improve the innovation ability of enterprises. At the same time, it will help to deeply understand the cooperative relationship between universities and enterprises, and explore how to promote industrial development.

4. Strengthen interdisciplinary: The construction of first-class undergraduate courses based on the integration of industry and education is conducive to the cross and integration of different disciplines, as well as the communication and innovation between disciplines. The research on the construction of the first-class undergraduate courses based on the integration of industry and education will help us to deeply understand the integration and innovation between different disciplines.

4. The goal of integrating production and education into first-class undergraduate curriculum construction

The goal of constructing first-class undergraduate courses with integration of industry and education is to cultivate high-quality and highly skilled talents with broad career choices and employment competitiveness. These talents not only possess professional knowledge with clear direction, systematic knowledge and strong practical ability, but also have solid humanistic quality, moral quality and scientific practice spirit. At the same time, they have the ability and quality of language expression, communication and cooperation, teamwork and other aspects. They can adapt to the diverse needs of the society, and can constantly expand and innovate in new fields, new technologies and new discoveries, including:

1. Strengthen the connection between courses and industries, so that students can understand the trend and demand of industrial development, real-time understanding of market changes and talent gaps in the current society, and master the corresponding professional knowledge and skills during the learning process.

2. Strengthen the setting of practice links, improve students' practical ability and application ability, so that they can perform well in work, shorten or even eliminate the knowledge distance between the school and the enterprise.

3. Promote the in-depth cooperation between the school and enterprises, build the brand of undergraduate courses with industry characteristics and advantages, and improve the overall strength and competitiveness of the school.

4. Provide more comprehensive and personalized support and help for students' career development, so that they can enter the ideal job and realize their own value and social contribution.

5. Strategies for constructing first-class undergraduate courses integrating industry and education

(1) Build a platform for the integration of production and education. The core of the construction of first-class production-teaching integrated undergraduate courses lies in the construction of the platform. The platform is the link between students and enterprises, industries, society and other aspects. Through the construction and play of the platform, students will be brought into real life and acquire real skills and knowledge in practice. Therefore, the construction of the platform should pay attention to the following points:

① Establish an industry-education integration alliance, gather high-quality enterprise and industry resources, and build an exchange platform for school-enterprise cooperation, school-industry cooperation and school-community cooperation.

② Promote the construction of "double teacher" teaching mode, introduce excellent teachers and enterprise mentors, and cultivate students' practical ability and professional skills.

③ Build a multi-form practice teaching base, so that students can learn professional knowledge and practical skills in the actual operation, and improve their practical ability and comprehensive quality.

④ Set up innovation and entrepreneurship projects according to industrial needs, guide students to actively participate in innovation and entrepreneurship activities, and cultivate students' innovation ability and entrepreneurial spirit.

⑤ Carry out industry exchange activities, provide students with the opportunity to interact with industry leaders and experts, enhance the dialogue and understanding between students and the industry, improve the quality of education and teaching effect.

(2) Promote the development of professional courses. The construction of first-class undergraduate courses should take the construction of professional courses as the core, and according to the needs of modern enterprises for professional talents, build a curriculum system that meets the market demand, and cultivate students' professional quality and practical ability. The following are the relevant strategies to promote the construction of professional courses:

① Establish a curriculum system integrating industry and education. The first-class undergraduate courses integrating industry and education need to establish a curriculum system adapting to the current economic development, and bring the actual needs of enterprises and industrial chains into the overall planning and design of the course. At the same time, it caters to students' personal development and future career development planning, carries out targeted teaching design, strengthens the combination of practice and examples, and creates courses that go deep into the nature of the industry.

② Establish and implement industry-oriented curriculum standards, explore the diversified means of teaching method innovation and teacher evaluation, promote the deep integration of teaching work and industrial environment, carry out school-enterprise cooperation, actively incorporate enterprise practice resources into the practical links of the course, promote students to solve problems in the real industrial environment, and improve their innovation and practical ability. Resources such as industry-university-research base, practice base and site are utilized to increase students' experience of industry culture and understanding of industry system in practice.

③ Set up cross-professional, interdisciplinary and practical courses to improve students' comprehensive quality and practical ability, and cultivate all-round talents. At the same time, we should strengthen project-style teaching and case teaching, strengthen project-style teaching and case teaching in the curriculum system, improve students' scientific research ability and academic innovation ability, and at the same time provide students with corresponding learning resources. Explore appropriate channels of cross-disciplinary and cross-field cooperation, so that students' comprehensive strength can be rapidly improved.

④ Pay attention to the application of information technology in the curriculum, improve students' information literacy, computer skills and information processing ability, make full use of enterprise cloud teaching platform, data analysis platform, modern advanced multimedia teaching infrastructure jointly created by the school and enterprise.

⑤ Improve the quality of curriculum teaching and the construction of teachers, oriented to the integration of production and education, and strengthen the pertinence of curriculum Settings. Strengthen teacher training, hire practice teachers and experienced industry experts and other measures to enhance the practical experience and industry capacity of teachers, and promote the construction and development of the teacher team. We should focus on exploring innovative teaching methods and forms, and improve the effectiveness and quality of teaching.

3. Strengthening curriculum resource sharing

The construction of first-class undergraduate courses integrating production and education needs to establish a course resource sharing system, reduce the waste of educational resources, improve the efficiency of resource utilization, and create a better educational environment. The following are relevant strategies to strengthen course resource sharing:

① Establish a unified course resource library, store teaching resources in a centralized way, realize the sustainable updating and sharing of resources, and improve the quality and efficiency of courses.

② Realize curriculum sharing, make full use of excellent teachers, teaching achievements and textbook resources, and establish cross-college and inter-school course sharing mechanism.

③ Promote the opening of undergraduate courses, establish an open course platform through the Internet of Things technology, cloud computing technology and other means, so as to provide students with high-quality educational resources and services.

(4) Establish an evaluation mechanism. The construction of first-class undergraduate courses integrating production and education needs to establish a scientific and standard evaluation mechanism to realize the controllability of quality. The following are the relevant strategies for establishing the evaluation mechanism:

① Establish a comprehensive and scientific teaching evaluation system, fully consider the growth and employment of students and other indicators, and effectively evaluate the comprehensive quality and professional ability of undergraduates.

② Establish a teacher evaluation mechanism, which adopts diversified evaluation methods and methods in terms of teachers' teaching achievements, teaching quality and teaching attitude.

③ Establish a school-enterprise cooperation evaluation mechanism to monitor and evaluate the implementation and effect of school-enterprise cooperation projects, and improve the quantitative and objective evaluation.

④ Establish a student evaluation mechanism to achieve students' participation and feedback, promote students' participation in independent learning, explore personalized learning paths, and improve learning effects.

Conclusion:

Higher education is an important part of social development, and the construction of first-class undergraduate courses integrating production and education is also an inevitable requirement for the reform and development of higher education. The construction of first-class undergraduate courses integrating industry and education is a powerful measure to reform higher education and improve the quality of talents. This paper puts forward several strategies to strengthen the integration of industry and education in education and teaching, so that college courses can be more widely combined with the actual needs, and enhance students' comprehensive quality and professional ability. Establishing cooperation mechanism, promoting curriculum reform, carrying out diversified courses and other steps provide a feasible route for the construction of first-class undergraduate courses with the integration of industry and education. Implementing these measures will make higher education more closely integrate with social needs and better serve the development of social economy.

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