

Research on the Path of Integration of Production and Education in Higher Vocational Education in China

Li Weiwei

Dongguan Polytechnic Research Center, Dongguan 523808, China

autuan@126.com

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Abstract: The integration of production and education is a distinctive feature of China's vocational education type education in the new era. It is an important starting point for the reform of China's vocational education deepening system and mechanism, and it is a highly concise development of China's vocational education innovation and development in the past 40 years of reform and opening up. This paper summarizes the realistic basis of the integration of production and education in China's vocational education in the new era from the three aspects of industrial foundation, vocational education system and type education. It analyzes the three needs of the deep integration of modern industry and vocational education, and points out the higher level of China in the new era. The four major paths of vocational education, education and education integration.

1. Introduction

The integration of production and education is a high-level vocational education docking industry in China. It actively sets up and adjusts its majors. Through school-enterprise cooperation, close industry and teaching links, it integrates and promotes each other in terms of personnel training, scientific research, social services and cultural heritage innovation. Kind of schooling mode. The integration of production and education is not only a major theoretical achievement of the innovation and development of socialist vocational education with Chinese characteristics, but also an important measure for the deepening reform and characteristic development of China's vocational education.

2. Realistic Basis of the Integration of Production and Education in Vocational Education in the New Era

2.1 The Foundation of Modern Industry is Strong and Powerful

The relationship between “industry” and “education” in vocational education is like the relationship between feet and shoes. The industry is the foundation for the healthy development of production and education. Promoting the high-quality coordinated development of industry and vocational education is the focus of deep integration of production and education. Over the past 40 years, China's industrial structure has continued to be optimized, the industrial system has been continuously improved, strategic emerging industries have been accelerated, and major projects such as manufacturing innovation centers, industrial bases, green manufacturing, and intelligent manufacturing have been implemented steadily; the service industry has moved toward efficient and high-quality development. Information, logistics, and e-commerce have maintained a good momentum of development, and “Internet plus” has been widely integrated into the real economy. After the reform and opening up, China's industrial development has formed a strong driving force. The leading role of the market and the main role of the enterprise have been fully exerted, and the resource elements have been optimally allocated, which has promoted the re-engineering of the industrial chain and the upgrading of the value chain.

2.2 The Modern Vocational Education System is Sound

At present, China has basically built a vocational education system with Chinese characteristics. First, the talent training model has gone from unipolar to multipolar. The modern apprenticeship system, the combination of engineering and learning, and the training of order classes have matured, forming a fusion of production and education. The school-enterprise cooperation, the combination of work and study, and the combination of knowledge and practice are the main characteristics of the vocational education mode with Chinese characteristics. Second, the school-running model moves from a single subject to a multi-agent. Governments, industries, enterprises and other multi-subjects participate in vocational education. The vocational education system, mixed ownership, joint-stock system and other school-running mechanisms are maturing, forming a school-enterprise cooperation and a school-education model. . Thirdly, the vocational education level is continuously enriched, and the training system of different academic qualifications from secondary vocational school, junior college, undergraduate to professional degree graduate is constructed. The ceiling of vocational education “higher vocational college” is opened, and vocational education and ordinary The communication bridge of education integrates the structure of full-time education and part-time education, and builds a vocational education system of “cultivation and training, morality and repair”. The fourth is the formation of the largest and complete type of vocational education system since the founding of the People's Republic of China.

2.3 The Type of Vocational Education is Deeply Rooted in the Hearts of the People

The National Vocational Education Reform Implementation Plan clearly states that “vocational education and general education are two different types of education and have the same important status”. This is the “recognition” of vocational education in China at the national level. As a kind of education, vocational education has the characteristics of cross-border cooperation, heterogeneous integration and reconstruction. It emphasizes the cross-border cooperation of cooperation subjects and emphasizes the heterogeneous integration of cooperation content. At the same time, it emphasizes the reconstruction and complementarity of cooperation methods. For example, cooperation between schools and government departments, industry, industry associations, enterprises and international organizations is a cross-border cooperation; in the school-enterprise cooperation, “student and apprentice”, “teachers and masters”, “classrooms and workshops”, “teaching and production” The secondary integration of heterogeneous cooperation content promotes mutual cooperation and complement each other in cross-border cooperation. In terms of cooperation, schools and partners rely on their respective advantages and characteristics to reconstruct a new type of mixed ownership. Cooperation methods such as modern apprenticeships are conducive to strong alliances and complementary advantages. The three characteristics of cross-border cooperation, heterogeneous integration, and reconstruction have become the background of vocational education, which is more and more recognized by the society.

3. Realistic Needs of the Deep Integration of Modern Industry and Vocational Education

3.1 The Need for Industrial Kinetic Energy to Transform the Training of Vocational Education Talents

At present, China's economy is in the stage of “double-concussion” of traditional growth kinetic energy decay and shifting to high-quality development. It is urgent to accelerate industrial transformation and upgrading through the transformation of new and old kinetic energy of the industry, and help the economy to develop at a high speed and high quality. Deepening the integration of modern industry and vocational education, and accelerating the cultivation of high-quality technical and technical personnel adapted to the transformation and upgrading of the industry are effective measures to break the barriers to the transformation of new and old kinetic energy. Talent is an important element of national development and the first element of industrial development. The transformation and upgrading of modern industry has determined the demand for vocational

education to accelerate the cultivation of high-quality technical and technical personnel, and also put forward new requirements for deepening the integration of industry and vocational education.

3.2 The Demand for Technology Innovation Applications by Small and Medium-Sized Enterprises

Derek Bok (1930-), an American contemporary educator, believes that the way to strengthen the close relationship between business and universities is to avoid ignoring practical research. Second, universities should actively participate in corporate development. For a long time, the industry and the education sector have become the two main camps for technological innovation services. The degree of integration between the two is not too high. Since China's accession to the World Trade Organization, the integration and development of small and medium-sized enterprises and higher vocational colleges has been continuously strengthened. Under the two-way stimulation of mutual benefit, deepening the cooperation between industry, academia and research has not only become the internal demand of schools and enterprises, but also provided for the construction of innovative countries. Power source. Promoting collaborative innovation in industry, academia and research is an inevitable choice for higher education institutions, including higher vocational colleges. Compared with ordinary colleges and universities, there is still a certain gap between the overall level of technological innovation in higher vocational colleges and the former. However, in the practical research and service, the development of small and micro enterprises has its characteristics, which promotes the sound development of modern industrial chain and value chain.

3.3 The Social Responsibility Needs of Enterprises for Education

Educational responsibility is an important part of corporate social responsibility. The integration of production and education, school-enterprise cooperation is the main form of enterprise participation in vocational education. Its primary motivation is not only the appeal of economic interests, but also the value recognition of social responsibility. Since the 19th National Congress, with the continuous deepening of the integration of production and education, the enthusiasm and sense of responsibility of the industry to participate in vocational education has promoted the birth of a fusion of production and education. The “Implementation Measures for the Construction of Integral Enterprises for Production and Education (Trial)” clearly states that “integration of production and education enterprises refers to deep participation in the integration of production and education, school-enterprise cooperation, and plays an important role in the running of colleges and universities and deepening reforms. Behavioral norms, remarkable results, creating greater social value, improving the quality of technical skills, enhancing attractiveness and competitiveness, and having a strong driving force to lead the demonstration effect.” [National Development and Reform Commission Ministry of Education issued Notice on the Implementation of the Implementation Measures for the Integration of Production and Education Enterprises (Trial). March 28, 2019.] The National Vocational Education Reform Implementation Plan clarifies that the financial and financial + land + The combined incentives of “credit” and the implementation of relevant tax policies as required. The promulgation of the “Measures” and “Programs” will greatly release the enthusiasm of enterprises to participate in education, and form a dual drive for the economic interests and social responsibilities of enterprises to participate in the integration of production and education.

4. Main Path of Vocational Education to Deepen the Integration of Production and Education

4.1 Strengthen the Organic Connection between the Professional Chain and the Industrial Chain

The coordinated development of industry and education is inseparable from the organic connection between industry and profession. It is inseparable from the basic support of industry to the profession, and it is inseparable from the professional and industrial talents and technology feedback. Strengthening the connection between the professional chain and the industrial chain, building a

coordinated development of professional and industrial development, and forming a community of integration of production and education, is an inevitable way for the profession to follow the industry and the industry to lead the profession. At present, China is in a new stage of innovation-driven development. The main driving force for economic development must be driven by factors such as resources, labor, and capital, and switched to innovation. For example, smart manufacturing equipment, new generation information technology, new energy industry, smart grid, cloud computing, mobile internet, etc. are updated in the old industrial chain, and the industry is moving towards high-end, intelligent, green, service and brand development. . Under the new economic form and economic development mode, the old industrial chain's empowerment index is reduced, the sustainable development capability is declining, and the new economic development mode characterized by light assets, heavy intellectual property rights, heavy technological innovation and high growth is rapidly formed. It has spawned new industrial chains such as the sharing economy, the Internet of Things, blockchain, virtual reality and augmented reality, environmental protection and new energy. To this end, the profession that closely follows the development of the industry has also changed.

4.2 Deepen the Reform of the “Educational Schools and Enterprises” Collaborative Education Mechanism

The “political school and enterprise” synergy refers to the government, schools, industries, enterprises and other parties in the process of training skilled personnel, give full play to their respective advantages and roles, rational allocation of resources and elements, work together, complement each other, deep integration, Fully release the vitality of talents, capital, information, technology and other elements of education between them, and achieve deep cooperation and common education. To deepen the “political school and enterprise” collaborative education mechanism, one must build a collaborative governance mechanism, the second is to build a two-way interoperability of talent complementation mechanism, the third is to build a two-way support teaching intercommunication mechanism, and the fourth is to build a talent common education mechanism. Fifth, we must jointly build a collaborative education platform, such as training bases, innovation and entrepreneurship bases, technology research and development and service centers. Through deepening the reform of the collaborative education mechanism, the school teaching, enterprise production, social service and scientific research and development will be integrated into one. On the one hand, it will cultivate skilled talents, improve students' labor skills, and on the other hand, serve enterprises and society, and enhance technological innovation and service. Ability to solve the problem of insufficient integration of vocational education and industrial development.

4.3 Build a School-Enterprise Dual Education Mode

In the vocational education, we adhere to the dual-subject status of the school and enterprise, and link the teaching process with the production service process as the main line, synchronize the teaching and production service cycle, and implement the school in six aspects: teacher allocation, apprentice selection, teaching implementation, teaching evaluation and teaching place. “Double Enterprise”, the implementation of the main status of schools and enterprises in the process of vocational education personnel training, mainly includes the following six aspects: First, the apprenticeship selection and dualization. The School Admissions Office cooperates with the human resources department of the enterprise to carry out enrollment and recruitment work. The students sign a tripartite agreement with the school and the enterprise to clarify the dual identity of the apprentices' employees and students. Second, the tutor is equipped with dual elements: the school implements the “double tutor” system, and the teaching and research section assigns full-time teachers to serve as instructors in the school to explain theoretical knowledge and track learning. The company assigns technical backbones as corporate instructors, and employs masters to form apprentices at all levels. Interdisciplinary, interdisciplinary innovation training and production practices. The third is the dualization of teaching plans: the school's professional teaching and research section and the enterprise technology (production) competent department jointly develop a

curriculum system and teaching plan that is in line with teaching and production. The fourth is the dualization of teaching implementation: the school's full-time teachers and enterprise production workshop instructors design learning, training, social services, innovation and entrepreneurship and other teaching processes based on typical work tasks, and cultivate practical operation capabilities. The fifth is the dual evaluation of teaching evaluation: focusing on the quality management center of the college, supplemented by the production management department, and evaluating and monitoring the theoretical study; the production management department is the main, supplemented by the college quality management center, and the production training is carried out. Assessment, quality evaluation of social services, tasting of innovative works. Sixth, the dualization of teaching places: school-based, enterprises as the supplement, carry out rational integration learning; with enterprises as the mainstay, supplemented by schools, carry out production training, project services, innovative applications. Through the implementation of the school and enterprise six pairs, the problem of the close connection between vocational education and industrial development in the five aspects of demand, standards, process, certificate and learning has been effectively solved, and the employability of students has been improved.

4.4 Build a High-Level Integration Platform for Production and Education

The high-level integration platform of production and education is the embodiment of the integration of production and education, the height and depth of school-enterprise cooperation. It needs to meet three functions. One can serve the training of talents in schools. This is the fundamental starting point for the integration of production and education in higher vocational colleges. The integration platform can promote the internal needs of students' technical skills accumulation, innovation and entrepreneurship education, and professional spirit training. Second, it can serve the development of society. This is the core interest of the partners in the integration of production and education. It requires the platform of integration of production and education to contribute to social progress and enterprise development. It can provide high-quality human resources for the partners and create opportunities for the society and enterprises. Provide solutions to difficulties and problems, promote changes in production and operation methods, and improve productivity and economic efficiency. The third is to promote school-enterprise cooperation. This is the only way for the sustainable development of the industry-information integration platform. It is required to provide a platform for cooperation between schools and enterprises to provide a model of cooperation and explore new modes of cooperation, such as modern apprenticeship and mixed ownership. Such as the practice of cooperation mode, the pilot of the order-based training, the training of the training of the curriculum, the pilot of the education model, the diagnosis and improvement of the internal quality assurance system, and the inspection mode of the governance model of the mixed work of the engineering and learning cloud. To this end, a high-level integration platform for production and education needs to rely on management norms, technology leadership and industry-influenced partners to set up cooperative institutions, formulate long-term solutions, refine cooperation content, and promote tasks.

The status and role of the integration of production and education in the new era has been paid more and more attention. In addition to being the new task and requirement as the background of vocational education, the integration of production and education is also a powerful measure to promote the development of applied universities in ordinary colleges and universities. Characteristic development offers endless possibilities. In 2015, the State Council promulgated the "Overall Plan for Coordinating the Advancement of World-Class Universities and First-Class Disciplines", clearly stating that it is necessary to "deepen the integration of production and education, closely integrate top-level universities and first-class disciplines with the promotion of economic and social development, and strive to improve the industry-to-industry The contribution rate of transformation and upgrading...Opening up basic research, application development, results transfer and industrialization chain." From the promotion of world-class universities and first-class disciplines in China to the construction of high-level vocational schools with special characteristics and specialties with Chinese characteristics, the requirements of integration of production and education run through

them, indicating that deepening the integration of production and education has become an important measure for prioritizing the development of education strategies, and it is worthy of Chinese education. Researchers make more exploration and practice.

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