

Exploration and Research on Modes of Industry-Education Integration and School-Enterprise Cooperation of Business Majors in Vocational Education in the New Era by Taking Shandong Institute of Commerce and Technology as An Example

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Abstract. The new technological revolution dominated by the Internet, big data, cloud computing, and artificial intelligence, and the development of the industrial Internet, have put forward new requirements for the cultivation of talents in vocational education. The convening of the National Education Conference, the publication of the reform plan for China's vocational education and the proposal of establishing 50 high-level advanced vocational schools with 150 key majors, all require vocational education to deepen industry-education integration and school-enterprise cooperation. All these moves are to promote the organic connection between the education chain, the talent chain, the industrial chain, and the innovation chain. How could we improve the enthusiasm of enterprises, promote the deep participation of enterprises in collaborative education, and change the issues of "one-sided enthusiasm" and "Two skins", which are still difficult problems for vocational education? Shandong Institute of Commerce and Technology has carried out some beneficial explorations in running programs on base of school-enterprises cooperation, implementation of modern apprenticeship, order-class training, and co-construction of teacher studios to provide social services. All these programs also stimulate the enthusiasm of enterprises to participate in vocational education, achieving mutual benefit during the cooperation.

1. Introduction

With the closing of the Ministry of Education's *Higher Vocational Education Innovation and Development Action Plan (2015-2018)*, the convening of the National Education Conference, the publication of the reform plan for China's vocational education and the proposal of establishing 50 high-level advanced vocational schools with 150 key majors, the development of vocational education in China is in the golden period. New opportunities and new challenges have come one after another. The biggest opportunity is that vocational education is recognized as a type of primary education alongside the general undergraduate education. The biggest challenge is that vocational education should truly deepen the industry-education integration and the school-enterprise collaborative education mechanism.

From the study of the industry-education integration from Chinese vocational education experts and scholars, Jiang Dayuan studied the National Vocational Education Reform Implementation Plan and considers that the cross-border cooperation of enterprises and schools is the structural form and pattern of vocational collaborative education; integrating the needs between educational and industrial links is the social value of the survival and development of vocational education. [1] Wang Jiping believes that for the development of vocational education we should focus on deepening the industry-education integration and school-enterprise cooperation, forming a common community of destiny for school and enterprise, improving the institutional mechanisms and introducing policies for industry enterprises to participate in running vocational schools and colleges; meanwhile, we should support the construction of a number of industry-education integrated enterprises to deeply participate in vocational education, forming a diversified school-running pattern. [2] Li Zheng and Xu Guoqing believe that in the double-subject governance structure in vocational education, schools and enterprises have always been the two cores in this structural framework. Modern apprenticeship

is a mode of talent cultivating and cooperation between schools and enterprises, aiming at cultivation of high-skilled workers in vocational education.[3] Liu Lixin gains the enlightenment of developing the integration of industry and education in vocational education in China by studying the experience of the dual education system in Germany. [4]

2. The Connotation of Industry-Education Integration

The purpose of deepening the industry-education integration is to promote the organic connection between the education chain, the talent chain, the industrial chain, and the innovation chain. It is an urgent requirement for promoting the structural reform of the supply side of human resources in the new era. Under the new situation, it is of great significance for comprehensively improving the quality of education, expanding employment and entrepreneurship, promoting economic transformation and upgrade, and fostering new kinetic energy of economic development. [5]

The 19th National Congress of the Communist Party of China clearly put forward the requirements of "deepening industry-education integration and school-enterprise cooperation". The Several Opinions on Deepening the Integration of Industry and Education issued by the office of State Council in 2017 contains 30 policies from 7 aspects, which are concrete measures to deepen the integration of industry and education. In early 2018, the Ministry of Education and other 5 ministries jointly formulated the "Measures for the Promotion of School-Enterprise Cooperation in Vocational Schools" to determine that the school-enterprise cooperation and industry-education integration are basic modes of running a vocational college or school. According to National Vocational Education Reform Implementation Plan issued by the State Council in 2019, the transition from government-running vocational education to government-coordinated management and diversified-running by the society should be basically completed within 5-10 years, and clearly promote the industry-education integration and school-enterprise cooperation by means of dual-subject education.[6] At present, vocational education is being changed from government leading into the stage of "school-enterprise dual-education" and "society diversely running". It features government guidance, industry participation, social support, school-enterprise dual-education.

Although the current vocational education policy is favorable, it is an urgent need for vocational education to deepen the industry-education integration and school-enterprise cooperation. How could we improve the enthusiasm of enterprises, promote the deep participation of enterprises in collaborative education, change the issues of "one-sided enthusiasm" and "two skins", and truly realize the docking of specialty set-up and industrial demand, the course content and professional standards, the teaching process and the production process? They are all practical problems for vocational education.

For government: In addition to various policies for vocational education, in March 2019, the National Development and Reform Commission and the Ministry of Education issued the Implementation Measures for the Construction of Industry-Education Integrated Enterprises (Trial), to give a combination of banking, finance, land and credit incentives for industry-education integrated enterprises, together with the implementation of the corresponding tax policies in accordance with regulations. The measures fully mobilize the enthusiasm of enterprises to participate in the integration of industry and education and school-enterprise cooperation, and encourage enterprises to invest in vocational education, to accept student internship training and teachers' practice, to carry out in-depth cooperation between schools and enterprises, and to build integration of industry and education, etc. [7]

For vocational colleges: Vocational colleges should take the initiative to seize policy opportunities, comprehensively analyzing their own advantages, serving the regional development. They should consider what benefits they can bring to the enterprises, actively connecting with the enterprise, and seeking a win-win situation for the participants in the integration of industry and education. They are supposed to build productive training bases or industrial schools to give full play to the functions of talent cultivation, technological innovation and technology transformation.

From enterprises: Enterprises should profoundly understand the important spirit of "development is the first priority; talent is the first resource; innovation is the first impetus". And they must realize

that the development goal of China's vocational education is to provide a large number of high-quality technical talents for the country's economic transformation and upgrade. It is necessary for enterprises to fully realize that in the future for vocational education, the enterprise is not just a participant but a participator, not just a bystander but an organizer. [8] Enterprises can enhance their endogenous motivation only by participating in the deep cooperation between schools and enterprises and participating in the entire chain of talent cultivation. [9]

3. The Analysis of Modes of Industry-Education Integration and School-Enterprise Cooperation of Business Majors in Higher Vocational Colleges in a New Era

In today's society, the new technological revolution dominated by the Internet, big data, cloud computing, and artificial intelligence has changed the way of social interaction from the most basic and essential aspects and promoted the transformation of the society. With the advent of the intelligent business era, domestic consumer behavior is highly digital, and innovative models are constantly emerging, effectively promoting the transformation and upgrade of traditional service industry and realizing the commercialization of it. What follows will be the reduction and disappearance of a large number of traditional professional positions, and the rise and surge of some new types of jobs. At the same time, Shandong Province has launched a new project of transformation, upgrading the kinetic energy between the old and new industries, which put forward new requirements for the talent cultivation of higher vocational education.

In the new era and the new situation, Shandong Institute Commerce and Technology (hereinafter referred to as SICT) effectively integrates business majors, continuously explores the industry-education integration and cooperation between schools and enterprises, and cultivates high-quality skilled talents in the context of intelligent industries.

3.1 Programs Based on School-Enterprises Cooperation

Many enterprises, especially large and medium-sized enterprises, have a large number of employees, and need to recruit many new employees every year. The enterprise organization is relatively complete, with high technical and management level, and has a relatively mature staff training system. SICT selects some enterprises with good social reputation and strong demand for recruits in the industry to cooperate and run programs with.

3.1.1 Establishing a school-enterprise leading and dual-subject educational mechanism

SICT and the enterprises have established a board of directors and hold at least 2 meetings per semester to summarize the cooperation experience, deployment and adjustment of the next step. The project execution team of both SICT and enterprises holds weekly meetings to coordinate and resolve various problems arising in the cooperation process. School-enterprise cooperation together carries out enrollment publicity, formulates talent cultivating programs, designs curriculum system, implements project-oriented teaching reform, and guides students to practice real projects of enterprises, etc. and initially establishes the school-enterprise leading and dual-subjects education mechanism.

3.1.2 Bringing real projects into the school with the company full participation in the whole process of talents cultivation

SICT and enterprises jointly build a productive training base and an industrial school in the school and create a true working environment for students to study in. Bringing real projects into school, the enterprises participates in the whole process of talent cultivation. Each year, the company selects some excellent staffs to stay in the school. Together with the SICT teachers, the company arrange students' affairs, do some practical teaching and guide students to practice the enterprises real projects.

3.1.3 Carrying out project-oriented teaching reform to promote the construction of the faculty team under school-enterprise cooperation

SICT introducing the real projects of the enterprises into the classroom, the teachers both from SICT and enterprises jointly implement the project-oriented teaching reform, changing the classroom teaching methods and teaching content, developing project-oriented teaching resources, to rapidly

improve the students' professional skills. At the same time, because the school teachers are better at teaching and theoretical research, and the enterprise teachers have stronger practical guidance ability, through the real projects of the enterprise, both sides can learn from each other and improve themselves. School teachers can grasp the requirements of enterprises for students' vocational skills and professional competency, accurate the target of talents cultivation and curriculum setting, and promote teaching reforms to improve school teachers' practical teaching ability. Enterprises' teachers can also contact students directly, integrate into the growth of students' learning, and improve their educational and teaching skills.

3.2 The Modern Apprenticeship

For higher vocational colleges, the function of modern apprenticeship is oriented to cultivating high-quality technical talents adapting to the high-tech era. The implementation of modern apprenticeship can effectively solve many problems in higher vocational education and plays an extremely important role to improve the level of higher vocational education.[10] Based on the programs of E-commerce and Business English (cross-border e-commerce), SICT cooperates with enterprises to implement the modern apprenticeship training mode. SICT and enterprises jointly determine the whole plan for enrollment and recruitment, formulating the modern apprenticeship talent cultivating program. They design the curriculum system, develop the course materials, and jointly set the modern apprenticeship teaching standards, curriculum standards, master selection, hiring, assessment, and incentive standards, etc. In addition, SICT and enterprises have built a production training base in the school and a practice base outside school and have tried out the cultivating mode of combining morality and skills, learning and practicing, and knowing and doing. As soon as students enter the school, they will be in close contact with the company, feeling the corporate culture and experiencing office environment, and practicing the real business of the company. There are teachers both from school and enterprises to guide the students to cultivate good morality and comprehensive quality and to improve their professionalism. Graduates are welcomed by cooperative enterprises and employers, and the quality of personnel cultivation has been improved significantly.

3.3 Cultivating Talents According to Industry and Enterprises Demand

Because school-enterprise cooperation programs and modern apprenticeship training require enterprises to participate in the whole process of personnel cultivation, it is not suitable for some enterprises. There is another mode of school-enterprise cooperation called "school-enterprise cooperation order-class" which means to set up a class or an apprenticeship group to cultivate students according to enterprises' demand. This is also one of current school-enterprise cooperation modes in SICT. The company participates the process of education six months or one year before the student's internship and forms an order-class through two-way selection between enterprises and students. Enterprises can begin their pre-employment training in students' spare time in school, passing on corporate culture, product knowledge, workplace rules and career growth planning to students, or arrange business staff to guide students corporate training. Before the student's internship, the school, the enterprise, and the student will sign a tripartite agreement to fully protect the interests of all parties. On the whole, this mode is simple and easy. The purpose of the company is mainly to select potential employees. After learning some knowledge, culture and skills from enterprises in advance, the students can establish the correct cognition of the enterprise and the future profession. Students who have passed the order-class training have some advantages in adaptability, business ability and corporate recognition. Therefore, school-enterprise cooperation order-class training is a relatively appropriate model for companies that cannot afford a three-year training period.

3.4 Setting Up Teacher Studios under School-Enterprise Cooperation and Providing Full-Service for Small & Micro Enterprises and County Economy

The deep industry-education integration and school-enterprise cooperation must be a win-win situation for both sides, establishing a true partnership, and forming a common community of destiny. Schools can't always get the benefits from school-enterprise cooperation without giving anything.

Instead, they should regard enterprises as equal subject during talent cultivation and take the initiative to serve the development of enterprises.

SICT has established “New Media Marketing”, “Customized Marketing”, “Visual Marketing”, “International Customer Development and Maintenance”, “Commercial VR Content R&D and Marketing Plan”, and “New Retail” and other teacher studios, introducing more than 10 enterprise resources and corresponding enterprise expert teams, school and enterprises, teachers and students working together. They have taken on more than 130 tasks for 10 companies. This not only cultivates the students' professional ability and innovation and entrepreneurial awareness, but also enhances the teachers' research and social service capabilities, improving the teachers' practical teaching ability.

4. Conclusion

Whether we choose a school-enterprise cooperation to run a program, implementation of a modern apprenticeship, or order-class training, the core of the industry-education integration and school-enterprise cooperation is talent cultivation. It is the sacred mission of vocational education to make every student a good person, from seeking a job to pursuing a dream, inheriting technical skills, and promoting employment and entrepreneurship. Vocational education should further deepen and enrich the mode of the industry-education integration and school-enterprise cooperation, improve the school-enterprise dual-subjects education mechanism, and establish an enterprise coach team for practicing teaching and theoretical teaching. And at the same time vocational colleges must strengthen the formulation of various standards for school-enterprise cooperation.

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