

# **Analysis on the Development Direction of the Integration between Industry and Education in Vocational Colleges with a Background in “Dual System” Talent Training**

**Wei He**

Guangdong Mechanical & Electronical College of Technology, Guangzhou, Guangdong Province, China

**Keywords:** Integration between industry and education, School-enterprise cooperation

**Abstract:** Under the background of education in the new era, China regards the “dual system” education model as the core of the reform of the vocational education system. The paper first describes the situation of foreign vocational education and the relatively mature mode of the integration between industry and education. Then, it analyzes domestic national policies related to the integration between industry and education, and brings forward feasibility opinions on the tripartite issues of the Chinese government, schools, and enterprises by combining the promotion of the current deep integration between industry and education in domestic vocational colleges. In the end, it proposes four school-enterprise cooperation development ideas of platform establishment, multi-dimensional school-enterprise cooperation, teaching reforms with industry integration, and R&D costs reduction for enterprises.

## **1. Introduction**

The State Council of China issued Document No. [2019] No. 4 on February 13, 2019. *Notice of the State Council on Printing and Distributing the National Vocational Education Reform Implementation Plan* is a core guidance document on the development direction of vocational education in China. It proposes all-round reform ideas to vocational education. Among the 20 guiding points, it emphasizes social services, corporate guidance, and industry-education collaboration. Whether it is the construction of a “dual-qualified” teacher team, the 1+X certificate system, or the promotion of school-enterprise comprehensive in-depth cooperation, building high-level practical training bases and so on, it requires that the school-running philosophy of vocational colleges should favor social service, co-construction by schools and enterprises, high efficiency and orderly, and employment-oriented. The document also puts forward the goal. After about 5-10 years, vocational education should basically complete the transformation from the government-based organization to the government's overall management and social diversified schooling. Corporate social participation and the transformation of type education with distinctive professional characteristics should greatly improve the modernization of vocational education in the new era, and provide high-quality human resource support for promoting economic and social development and improving national competitiveness [1]. It can be seen that the reform of vocational education is short in time and heavy in tasks. At the same time, through the supplement of enterprises, it can effectively and reliably provide the basic force for the improvement of national productivity.

## **2. Status Quo of Higher Vocational Talents Training At Home and Abroad**

### **2.1 Abroad**

*Notice of the State Council on Printing and Distributing the National Vocational Education Reform Implementation Plan* emphasizes the need to promote the integration between industry and education, and the “dual system” education of schools and enterprises. This method is derived from the German vocational education talent training model and is also the most valuable reference for China. This model has cultivated a large number of high-quality and highly-skilled talents for

Germany, which has greatly promoted the development of the German economy. This model is a dual element composed of German educational institutions and enterprises, and the two are used to educate students in cultural education and professional skills according to different role assignments. This is a talent training model in which students act as students and apprentices and use their respective resources to learn.

### **2.1.1 Training Objective**

Due to the development of society and economy, modern enterprises have higher requirements for vocational and technical talents. Through theoretical and practical education and training, students will not only master the necessary professional abilities but also key abilities. When the economic environment of the workers changes and the workers are forced to change their working relationships, students with this ability can adapt to the changes in the environment, make timely adjustments, and show the professional's comprehensive professional ability.

### **2.1.2 Major Setup**

The major setting forms the professional system based on the occupational analysis, and forms the occupational post group according to the relationship between the occupational posts, and forms the professional setting from the occupational post group.

### **2.1.3 Construction of the High-Quality Teacher Team**

Talent training in abroad pays attention to the training of “dual-qualified” teachers, and adopts a scientific teacher training model in order to improve teachers' practical skills, encourage teachers to go into enterprises. Teachers go into enterprises to understand the enterprises' work flow and employment environment, and to learn practical knowledge that cannot be learned from books. Then they pass on their practical experience to their students. Therefore, the whole level of the teaching staff can be strengthened by improving the teacher admission system.

### **2.1.4 Occupational Regulations**

Germany is a country with a relatively sound legal system. It also has perfect vocational education regulations. Germany has promulgated *Vocational Education Law* in the field of regulating the development of vocational education. The promulgation of this bill has greatly promoted the development of German vocational education and also greatly promoted the development of the German economy.

## **2.2 At Home**

China has a guiding direction for the talent training model of the integration between industry and education in vocational education for many years. The “dual” system has been studied and practiced in China for a period of time. On December 5, 2017, the State Council issued [2017] No. 95 “Several Opinions on Deepening the Integration of Industry and Education”, which pointed out the integration between industry and education as an important measure to promote the coordinated economic and social development and integrate it into all links of economic transformation and upgrading. Throughout the entire process of talent development, a work pattern of coordinated advancement by the government, enterprises, schools, industries, and society is formed [2].

Under the background of the new era, the school-enterprise “dual system” of collaborative education is not only to meet the needs of the national vocational education reform, but also to cultivate high-quality skilled talents. It is the general trend of school-enterprise development. However, specific issues need to be analyzed in detail. Copying foreign experience is bound to be problematic. The “dual system” has also appeared inconsistent when it is tried.

### **2.2.1 Government Policy Guarantee**

Enterprises are profit-seeking. They emphasize profit motives, which encourage them to cooperate with industry and education. It is obviously insufficient to rely solely on the leadership of universities and colleges. The government should play a leading, coordinating and supervising role

in the entire school-enterprise cooperation process. At present, the relevant policies on the school-enterprise “dual system” of collaborative education have been emphasized many times, which just shows that the implementation of domestic vocational colleges is not ideal. Moreover, relatively complete laws and regulations have not been formed. How to regulate the rights and obligations of both the enterprise and the school, how to maintain the interests of both parties, and how the students are responsible for unexpected situations have not been resolved. Innovation and verification are needed. This is one of the reasons that result in the lack of enthusiasm between schools and enterprises and their unwillingness to cooperate in depth.

### **2.2.2 The Forms of Industry-Education Integration Projects Are Shallow**

According to the survey, the content of industry-education integration projects in most vocational colleges are mainly enterprise horizontal projects, graduate internships and employment, etc., which are simple in form and lack depth. During the cooperation period between schools and enterprises, there are few enterprise personnel who have been practicing on-site with students and teachers for a long time, let alone involving the core business of the enterprises or integrating into the production process. Therefore, the so-called cooperation has a very limited effect on teaching reform and the improvement of teachers' ability. Gradually, enterprises will not regard school-enterprise cooperation projects as their core projects, and they also lack enthusiasm for school cooperation.

### **2.2.3 Enterprises Are under Great Pressure in Market Competition, and the Most Essential Purpose of Business is to Pursue Higher Efficiency and Profit.**

It is the norm for college graduates to not be able to take over the work of the enterprises immediately after graduation. It is still necessary for the enterprises to arrange a longer period of vocational training. At present, a good plan is to cultivate new talents such as “modern apprenticeship”. Although it has achieved good results, it still cannot be oriented to all majors and most enterprises. It can be seen that at present, enterprises have tended to be conservative in their attitude towards cooperation with vocational colleges when policy standards have not been promulgated, their interests cannot be guaranteed, and the basic continuity problem has not been resolved.

### **2.2.4 The Rage of the Covid-19**

Due to the quarantine measures, the division of labor across the country and the world has been severely hit. In a chain reaction, both the supply side (factories and enterprises) and the demand side (sales and services) have been severely affected. Although the epidemic has been well controlled with the efforts of the country and the people, most companies have basically resumed work, but resuming work does not mean reaching production. According to the survey, more than 40% of the companies said they encountered a shortage of production materials, and even 22.3% of the enterprises chose to reduce their employees to deal with the increase in labor costs caused by the epidemic, not to mention the recruitment of new employees. It can be seen that, from the perspective of higher vocational colleges, it is necessary to increase social services. It is not only necessary to provide technical personnel, but to assume more responsibilities, introduce more opportunities for enterprises, and reduce burdens.

## **3. Ideas for the Development of School-Enterprise Cooperation**

According to the content of the preface, the professional reform of higher vocational colleges is urgent. Whether it is the advancement of “dual system” vocational education, the 1+X certificate system or the construction of a “dual teacher” teaching team, the further integration of social enterprises is required. The core of this subject is to deepen the integration between production and education, and to innovate in the form of school-enterprise cooperation, system specifications, curriculum iteration updates, teaching and research teams, and talent sharing, and establish a long-term professional collaboration platform mechanism. The basic principle of school-enterprise cooperation is the coordinated development of school-enterprise in multiple directions. The

so-called synergy refers to the process of coordinating multiple individuals with different resources (schools, functional departments, and various departments of enterprises) to give play to their respective advantages and achieve certain goals in a consistent manner. In this way, each individual can use other bits as leverage to step into multiple fields and utilize more resources. Schools and enterprises should deepen vocational education, give full play to the role of enterprises, and promote the all-round integration of structural elements on the supply side and the industrial demand side of talent training. Based on the current theoretical basis, we need to do the following.

First, at present, the school-enterprise cooperation and the integration between production and education focus on depth and rely heavily on the establishment of the platform because with the current situation of cooperation, it is impossible to meet the society's requirements for the cultivation of industrial talents. The depth can start from platform construction, clarification of school-enterprise development goals, institutional norms, professional further education, etc., led by vocational colleges, with enterprise industry development as the core, and try to make use of all favorable conditions for the overall layout.

Second, the deep integration between industry and education is an upgraded version of the university-enterprise cooperation promoted in recent years. It means that the cooperation mode of a single major, course and enterprise is developed into an organic combination of the whole process of trade, industry and talent training, and orderly integration of trade, industry and enterprise with universities, production and teaching. Only by advancing the in-depth integration of production and education, can the industry's constantly changing needs for new technologies and new talents be fed back to the education and teaching reform in the first time, and vocational education can truly be close to the society and serve it. At the same time, with the support of policies, some teachers' teaching workload has been liberated, and they can even enter enterprises to participate in work with pay. Enterprises can also make full use of the school platform and faculty resources to allocate some technical difficulties to professional teams for tackling key problems. They can also transform the school's achievements into products that can meet market needs. Eventually, it will promote the development of a benign relationship between vocational education and industry, so that production guidance talents can be cultivated, scientific research promotes industrial upgrading, and production and education platforms are linked together.

Third, at present, the transformation of talent training methods in the vocational education reform is the most core part. How to closely integrate the goals of talent training with the goals of enterprise talent needs has always been the main contradiction. The main reason is that companies do not understand education and cannot use the language of education to describe their expectations for talents; schools do not understand the market and do not have sufficient tactile sensation to perceive the development trend of technology. Therefore, the core of the deep integration between industry and education is industry and enterprise. Teaching, teacher resource, and training cannot leave the enterprise alone. Schools' work needs to get enterprises involved. A new platform of the integration between industry and education based on market guidance, talent adaptation, and work norms needs to be established [3]. At the same time, schools should promptly promote major and curriculum reforms, clarify the exit mechanism of majors, and truly realize that talent training can connect with market supply and demand in real time.

Fourth, the deep integration between industry and education is not a single-dimensional structure, but a collaborative innovation community that integrates technology, theoretical foundation, and corporate culture [4]. At present, in the market, the demand for talents in vocational colleges is generally medium, small and micro enterprises [5]. The innovation and scientific research capabilities of these enterprises are generally average, the funds are weak, and the personnel are in short supply. The in-depth integration between production and education can provide enterprises with specialized talents, reduce innovation and R&D costs, enhance the agglomeration effect through cooperation platforms, accelerate the transformation of R&D results, and enable more high-quality projects to be actually implemented and better serve the country development strategy.

The integration between industry and education requires knowing yourself and the enemy, understanding the needs and difficulties of "industry", and understanding the goals and future of

“education” [6]. At the same time, it also needs to improve professional quality through its own reform and optimization, and let “industry” understand the necessity of education and change it. At present, our goal is the employment of students, the improvement of the certificate system, the promotion of teachers' professional ability, and course updating. The needs of enterprises are high-quality human resources, cost reduction, expansion of cooperation, product innovation and research and development.

## References

- [1] Zhixiang Gu. Research on the construction path of “dual-qualified” teachers in higher vocational colleges under the background of the integration between production and education [J]. Vocational & Technical Education Forum, 02, pp.99-102, 2019.
- [2] Qingliang Ren. “Dual system” talent training model in school-enterprise cooperation [J]. Management & Administration, 09, pp.48-49, 2014.
- [3] Shaomei Zhou. The crux of the integration of production and education in vocational education and its solutions from the perspective of industrial transformation and upgrading [J]. Education and Vocation, 02, pp.08-14, 2018.
- [4] Chuan Qin. 1+X certificate system: An important guarantee to promote the connotation development of type education [J]. China Higher Education Research, 01, pp.104-108, 2020.
- [5] Lingzhen Pan. Study on the teacher's development in higher vocational college based on the integration between industry sector and vocational education [J]. Research in Higher Education of Engineering, 02, pp.159-163, 2015.
- [6] Minglun You. Integration talents training mode in higher vocational colleges in new era [J]. Journal of Tongren University, 20 (02), pp.57-67, 2018.