

Case Investigation and Practice of Vocational Industrial College under the Platform of Vocational Education Group

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Abstract: Industry college is the concrete form of industry-education integration and deep school-enterprise cooperation, which centers on “educating people”. Different subjects play a role in policy innovation, educational innovation and technological innovation. Through functional coupling, resource fusion and benefit sharing, the hybrid entity is established in the cross-spiral collaborative innovation system. This paper summarizes the operation mode of industrial colleges supported by vocational education group through case investigation and practice of the operation of vocational colleges.

1. Introduction

Higher vocational colleges began to build “industrial colleges” in order to closely connect industries, deepen school-enterprise cooperation and promote industrial development. However, the initial stage of running an industrial college is only in the mode of running a university as a single subject. The school pays attention to the match between the working mode of talents and the quality of talents training with the main line of thinking: “Talent working mode -- School-enterprise Cooperation -- Talent training Quality”. Enterprises that participate in school-enterprise cooperation are not highly motivated, the degree of cooperation is not deep, the school is active, the enterprise “has nothing to do with it”, “one hot”, “two skins” and other problems.^[1]

In 2013, Zhongshan Polytechnic College cooperated with Zhongshan Professional town and industry association to set up five industrial colleges. Based on the professional group of elevator, it has established the College of Elevator in South Zhongshan District with the government of South Zhongshan District, Institute of Building Mechanization /China Academy of Building Research, And China Elevator Association in the national Torch Elevator Characteristic industry base. Based on the garment specialty group, Shaxi Textile and Garment College is established in China's leisure garment production base with Shaxi town government and Zhongshan Garment Industry Association. Based on the professional group of lighting decoration, Guzhen Lighting College is established in China lighting Decoration base with Zhongshan Guzhen town government and China Lighting Industry Association. Based on the professional group of modern service industry, Xiao Lan College was established in 5 national industrial cluster bases in Xiao Lan together with the Town government and Xiao Lan Chamber of Commerce.

Later, the Pearl River Delta in Guangdong, Yangtze River Delta in Jiangsu, Zhejiang and Shanghai, Minnan Delta in Fujian and other economically developed regions began to explore and cooperate with local governments and local industries to build industrial colleges.^[2]

In order to enable local governments, industrial colleges, industrial enterprises and other resources to better share and win, Zhongshan Polytechnic College took the lead in establishing Zhongshan Professional Town Featured Industrial Vocational Education Group in 2016. It has absorbed more than 40 units including secondary vocational schools, industry associations and core enterprises to join, and the town government and enterprises have invested 102.26 million yuan. It plays a good demonstration role in the transformation and upgrading of pillar industries in the service region, guiding the synchronous development of vocational education and industries and leading the construction of modern vocational education system in the region. Through the intervention of the municipal and town governments, the group introduces industries, enterprises, research institutes and related institutions to join and build 5 industrial colleges operating

entities .Group Council,the development steering committee of the group, the board of directors or council of the Industrial College and the steering committee of the construction of professional groups shall be established.A three-level operation system of “group-Industrial Institution-Specialty group” has been formed,which gradually making from loose alliance type to close property right type development.The member units of the group take the industrial college as the platform to carry out extensive cooperation and education, tackling key problems in application technology, new product design and technology transformation, promotion and application, etc., ensuring the continuous and efficient cooperation between the school and the enterprise.

2. Characteristics of Higher Vocational Industrial Colleges under the Platform of Vocational Education Group

The diversified school-running subjects of industrial colleges pay attention to the matching degree of economic model and school-running model, and their main line of thinking is “Economic model -- integration of industry and education -- school-running model”.^[3]

Colleges, local governments, industries and enterprises should invest in policies, people, finance, materials and other resources to achieve “integration”.Local governments issued industrial support policies and some hardware construction funds; Colleges invest in teachers, brand, operation; Industry and industry enterprises invest in enterprise resources such as teachers and practical operation equipment.

Industrial college is a specific manifestation of the integration of industry and education. Its purpose is to promote the connection between professional setting and industrial demand, course content and vocational standards, teaching process and production process, and facilitate industrial transformation and upgrading.Only according to the reality of local social and economic development, and with local industries as the link, can industrial colleges meet the real needs in the development of industries and enterprises.Only by building industrial colleges in industrial parks can we achieve zero distance between education and production, which is conducive to the development of better service industries.

The service of industrial colleges should focus on the technical service industry and give consideration to personnel training and cultural inheritance.The service objects of industrial colleges focus on the emerging industries to be fostered and the traditional industries to be transformed and upgraded.At present, most of the industrial colleges and scholars focus on the service content of industrial colleges on talent training, which is the traditional education mode thinking.The logical starting point of the construction of industrial colleges is that industrial development promotes vocational education, and vocational education promotes industrial development. Therefore, the operation thinking of industrial colleges is industrial thinking and economic thinking, so as to help the industry solve the problem that is in urgent need and improve its core competitiveness: technology research and development and public technical service.^[4]

3. Steps for the Construction of Higher Vocational Colleges

First of all, the local government and the industrial industry put forward the need to build industrial colleges.The main task of the Industrial College is to serve industrial enterprises and provide technology innovation, public technology services, technology incubation and technical talents for the industry.The local government and the industrial industry have the power and demand, which is the prerequisite for building the industrial college.

Secondly, analyze the matching degree of school resources to meet the needs of industrial colleges.The industrial college serves specific characteristic industries, and each local industry has different industrial basis and development needs.Colleges and universities should deeply analyze the satisfaction of their own disciplines, professional groups, R&D equipment, service capabilities and other resources and industrial needs

Finally, establish a scientific operation mechanism of industrial college.The efficient and orderly operation of the Industrial College requires the guidance of the Board of Directors.Formulate

systems for technical research and development, technical services, and achievement transformation to ensure that the technical service industry of the Industrial College can be implemented.

4. Construction Content of Higher Vocational Industrial Colleges

The content of the construction of industrial colleges is mainly built around the main tasks of industrial colleges. Focusing on industrial technology research and development, industrial public technical services, industrial personnel training and industrial culture cultivation, joint efforts will be made in technological innovation, employment and entrepreneurship, professional development, faculty development, personnel training and cultural development.

4.1 Jointly Build a Technology Collaborative Innovation Platform

As a specific carrier of the integration of industry and education, industrial college is very suitable for the development of cooperation and innovation between government and school enterprises. First of all, industries and enterprises should “ask questions,” according to actual needs, industrial institutes “solve problems” by carrying out vertical and horizontal scientific research to help industries and enterprises solve technical problems and the problems of poor information, poor coordination and low enthusiasm of enterprises in school-enterprise cooperation. Secondly, industrial colleges carry out industrial public technology development and technical services by establishing industrial technology research and development centers, so as to promote the transformation of technological achievements and make up for the lack of technical capacity of individual enterprises in the industrial group, especially the large number of small, medium and micro enterprises, and serve the industrial enterprise group.

4.2 Training Double Division and Double Energy Team

The multi-party construction of industrial college is conducive to the teachers' joint training. First, the implementation of teachers and engineers “common education”. Enterprises provide opportunities for teachers to practice and improve their practical ability while Colleges provide a stage for enterprise engineers to learn educational and teaching theories and improve their theoretical and teaching abilities. Second, implement the personnel system of “school-enterprise dual system”. The industrial college employs executives and engineers as part-time teachers, and the enterprise employs teachers from industrial institutes to do part of management and research and development.

4.3 Jointly Develop Majors Suitable for Industrial Development

First, establish professional personnel training standards and human resources market demand linkage system. The Board of Governors shall monitor the implementation plan, process and results of talent training. Enterprises participate in student training to strengthen the consistency between talent specifications and enterprise needs. Second, establish professional dynamic adjustment and industrial development trend linkage system. The third is to link the reform of professional curriculum system with national vocational standards.

4.4 Jointly Educate High Quality and Skilled Personnel

Establish a talent co-education mechanism with the participation of universities and industrial enterprises, and give full play to the advantages of industrial colleges in integrating teaching and production. According to the needs of the industry, train technical experts. Improve the management system of school-enterprise collaboration in educating students. The training model of combining work with study has been implemented in various forms, such as tutor studio system and modern apprenticeship system.

4.5 Jointly Build Characteristic Industrial Culture

Give full play to the advantages of industrial college being built in industrial park, and build a campus culture with industrial characteristics. Industrial colleges integrate their own university

culture with the enterprise culture and penetrate into the process of talent training. Cultivate the craftsman spirit of pursuing excellence and striving for perfection.

5. Summary

Zhongshan Professional Town Featured Industrial Vocational Education Group is a typical case of the operation mode of the industrial college jointly built by the government, school, enterprise and bank of the vocational education group. The group has experienced a bottom-up development process of “industrial college” first, and the core task is also around “talent training”. For example, from the three-level operation system of “group - industrial college - professional group”. The final foothold of the Group's development lies in the construction of professional groups. The setting of the teaching unit of the “major teaching and research section” is the implementation carrier of the integration of production and teaching to cultivate talents. Promote group participants and group resources to establish systems and standards in curriculum system, teacher co-construction, practice and training, carry out in-depth integration of production and teaching, and form a unique form of industrial chain - professional chain - teaching chain integration.

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