

Thoughts on Construction of Practical Training Base in Vocational Colleges

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ABSTRACT

This paper expounds the importance of the construction of practical training bases in vocational colleges and the relevant policies promulgated by the state in recent years. “High level and specialization” is an important feature of the future development of the training base of vocational colleges. In this context, it is a very important research work to systematically sort out the problems existing in the construction and operation of the existing training bases and put forward targeted suggestions. The problems of the construction and operation of the existing training bases are sorted out, and a questionnaire survey is carried out. On this basis, seven suggestions are put forward. The research content of this paper not only provides reference for the future construction of vocational training bases, but also points out the direction for the upgrading and reconstruction of existing training bases.

Keywords: *Training base, Vocational education, Education reform, Vocational colleges.*

1. BACKGROUND

The integrated development of industry and education is a national strategy. The integration of industry and education can achieve the all-round substantive mutual integration of industry, educational resources, personnel, technology, management and culture, promote the organic connection of education chain, talent chain, industrial chain and innovation chain, improve the layout of educational resources, accelerate the adjustment of talent training structure, innovate educational organization form, and promote the linkage development of education and industry [1]. Based on the needs of industrial development and talent training, the training base jointly built by enterprises and vocational colleges is an important platform and carrier to promote the integration of industry and education. During the “13th Five-Year Plan period”, the National Development and Reform Commission invested 17.705 billion RMB (accounting for about 80% of the investment in vocational education) totally for the purpose of supporting the construction of 743 industry-education integration training bases, which has played an important role in improving the quality of talent training and promoting cooperation between school and enterprise [2]. Under the background of implementing the manufacturing power strategy and developing strategic emerging industries, China’s vocational

education has entered a new development stage, and it is necessary to establish a new development concept and a new development pattern. In February 2019, the State Council issued the Implementation Plan of National Vocational Education Reform (hereinafter referred to as the Plan), which pointed out that it is necessary to “Promote the construction of 300 high-level professional industry-education integration training bases with spill over effect” [3]. In July 2019, six departments including the National Development and Reform Commission and the Ministry of Education issued the National Pilot Implementation Plan for the Integration of Industry and Education (hereinafter referred to as the Implementation Plan), which pointed out that “a number of high-level and professional training bases for the integration of industry and education with spill over effect shall be built according to the principle of overall layout planning and joint construction and sharing between school and enterprise” [4]. The Government Work Report of Year 2019 further defined the need to “accelerate the construction of industry-education integration training base” and “accelerate the training of various technical talents urgently needed by the national development with the great reform and development of modern vocational education” [5]. In March 2021, the Xinhua News Agency broadcast the Outline of the 14th Five-Year Plan for National Economic and Social Development

and Long-Range Objectives through the Year 2035 of the PRC, which mentioned “Innovating the school running mode, deepening the integration of industry and education and cooperation of school and enterprise” [6]. In July 2021, the National Development and Reform Commission and the Ministry of Education issued the List of National Industry-Education Integration Enterprises and the List of National Industry-Education Integration Pilot Cities, which required to “establish a new path and mechanism of reform with cities as nodes, industries as fulcrum and enterprises as focus, focusing on improving development planning and resource distribution and promoting talent training reform”, “optimize, improve and deeply implement the overall work plan of industry-education integration” [7].

As will be readily seen from the relevant national policies, the integration of industry and education has become an important measure to promote the coordinated development of economy and society; the high-level and professional industry-education integration training base is playing a more and more important role in fully mobilizing the enthusiasm and initiative of enterprises to participate in education and teaching, promoting the connection between supply and demand of technical and skilled talents, building a long-term mechanism for cooperation of school and enterprise, and forming a work pattern of jointly promoting talent training by the government, enterprises, schools, industries and society.

In this context, it is a very important research work to systematically sort out the problems existing in the construction and operation of the existing training bases and put forward targeted suggestions. The research content of this paper not only provides reference for the future construction of vocational training bases, but also points out the direction for the upgrading and reconstruction of existing training bases.

2. PROBLEMS IN CONSTRUCTION AND OPERATION

In view of the problems existing in the construction and operation of training base, scholars have done a lot of research work in the early stage. Some scholars have summarized three deficiencies [8]:

(1) Overlapping management of vocational education has affected the utilization efficiency of vocational education resources in China to a certain extent. There are many vocational colleges of the same type in a region, with similar professional settings and repeated construction of education and teaching facilities;

(2) There is an embarrassing situation that shortage and waste of investment in vocational education resources is coexisting. The training equipment of “high-quality, precise and specialized” is obviously

insufficient, but there are too many ordinary training equipment. However, there is still a big gap between these equipment and the equipment actually used by enterprises, and most of them are backward ones;

(3) There is a lack of resources and benefit sharing mechanism between education and industry. The resources of vocational colleges and industrial enterprises cannot be effectively shared, and there is a clear interest boundary between them.

Some scholars believe that the lack of off-campus training and the lack of depth of cooperation between school and enterprise affect the construction effectiveness of high-level training bases [9]. Some scholars think that the scale of the construction of some training bases does not match the development of schools and unilaterally pursues largeness and comprehensiveness; the equipment in many training bases looks very advanced, but is of little use [10]. Some scholars hold that the maintenance of the training base after completion lacks a practical management system [11-12].

The research team conducted a two-question questionnaire. 11 teachers were surveyed in the questionnaire. These teachers all have relevant courses and range in age from 25 to 58. The survey questions are:

Q1: do you agree that the established training base has promoted the development of vocational education?

Q2: do you agree that there are still many aspects that can be improved in the established training base?

The results are shown in Figure 1. As can be seen from Figure 1, all 11 teachers had positive attitudes towards Q1. Q2 was recognized by 9 teachers. The role of the training base is beyond doubt. However, how to better construction and maintenance, is a very worthy of study.

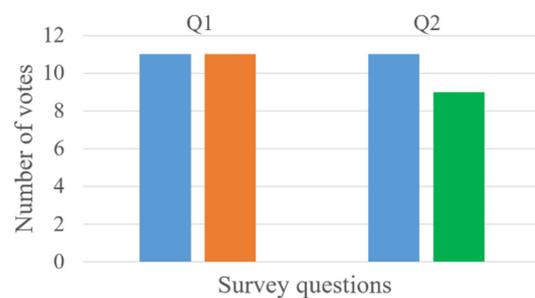


Figure 1 Questionnaire survey on training base.

3. PROPOSAL

Based on the research results of scholars in previous stage, the research team conducted extensive research through field research, expert consultation,

questionnaire survey and other forms, and formed the following suggestions:

3.1. Adhere to the Fundamental Task of “Cultivating People with Moral Integrity”

Since the 18th National Congress of the Communist Party of China, the Party Central Committee with Comrade Xi Jinping as the core attaches great importance to training socialist builders and successors, persists in taking “cultivating people with moral integrity” as the fundamental task of education, and constantly creates a new prospect for the development of education in China. The training base should take talent training as the primary task, deepen the cooperation between school and enterprise and promote diversified education. The teaching content of the base should be closely consistent with social practice and productive labour, explore and implement the teaching mode of “learning by doing and teaching by doing”, and vigorously promote practical education. In the teaching process, it is necessary to vigorously carry forward professional spirit, craftsman spirit and model worker spirit, and constantly enhance students’ civilized literacy and sense of social responsibility; more attention should be paid to the teaching content to constantly enhance the affinity and pertinence of ideological and political elements in the classroom. As for curriculum implementation, it is suggested to persist in focusing on students, caring for students and serving students, follow the law of ideological and political work and the law of students’ growth, change according to events and advance according to the times.

3.2. Accurately Position to Serve Regional Economy

The orientation of base construction is to serve regional construction and provide high-quality human resources support for promoting economic and social development and improving national competitiveness. Starting from the preliminary investigation and project preparation, the base construction should be closely combined with the development of regional pillar industries, emerging industries and characteristic industries and the demand for technical talents. The focus is to make overall planning for the construction and layout of the base in the field of shortage of technical and skilled talents such as advanced manufacturing industry.

In addition, the base construction should highlight characteristics, conform to regional economic development level and industrial structure characteristics, seek breakthroughs in specialization according to the existing resource advantages, and play a spill over role in a region. In other words, the layout of high-level and professional training base construction

should be reasonable, the development should be misplaced, the characteristics should be distinctive, the scale should be appropriate and the equipment should be advanced. It should not only have new development concepts and professional level, but also have the irreplaceable nature of service area.

3.3. Greatly Promote the Integration of Industry and Education

The main body of construction of high-level and professional training base should be diversified. Only by attracting the participation of enterprises and social forces can the training base achieve win-win results.

For enterprises, the training base can rely on the 1+X certificate system to provide corresponding support for enterprises in the form of employee training. Meanwhile, relying on the training base, schools can hire enterprise experts to give lectures for corresponding classes, integrate enterprise culture into teaching, enhance students’ understanding and loyalty to enterprises, promote the understanding between students and enterprises, and improve efficiency and quality of enterprise recruitment and employment.

For schools, on the one hand, they can take the training base as a carrier to undertake enterprise scientific research projects and upgrade enterprise production line technology. On the other hand, they can introduce the most advanced technology and process of enterprises into the curriculum and improve teaching quality. Experience of Germany, Japan, Switzerland and other countries can also be learned to explore the cooperation form and operation mode of school-enterprise integration construction bases such as introducing factories into schools and schools into factories. Taking the base construction as a carrier, vocational colleges should widely unite and attract domestic and foreign enterprises, broaden source channels of training equipment and technology, and cultivate skilled talents required by the society together with enterprises.

3.4. Focus on Sustainable Development

China is in the period of economic development and industrial transformation, and the renewal of enterprise process and technology is very fast. After the completion of the base, if we stick to the rules and stagnate, some links will inevitably gradually lag behind the industrial site. Under this circumstance, on the one hand, it restricts talent training; on the other hand, it is also a waste of national financial resources. In most cases, the industrial upgrading of enterprises is not all over again, mostly local changes, which also means that the transformation of the base is mostly “minor surgery”. If only a “minor surgery” can rejuvenate it, why not? The sustainable development of the training base is

inseparable from the guidance and norms of the government, education departments at all levels and industries.

The government should regularly organize experts to explore the cause of operation status and technical problems of the existing base, and provide financial support to the base that really needs technical iteration and upgrading. For the sustainable development of the base, attention should also be paid to the reduction of consumption costs. On the one hand, the base should make full use of its technical advantages to carry out technical services. On the other hand, the practice and training of the base should transition from consumptive practice to productive practice; that is, works completed by students through the base can be sold in the form of enterprise products. In this way, it not only provides support for enterprise development, but also saves operation cost of the base to a great extent.

3.5. Closely Centre on the “1+X” Certificate System

Students of vocational colleges should not only obtain academic certificates, but also actively obtain various vocational skill level certificates to improve their employability. The training base should make use of its own resource advantages and the “bridge” role of school-enterprise cooperation, actively cooperate with enterprises to apply for “1+X” certificates, develop and promote vocational skill level certificates. In joint declarations, enterprises and schools should play their own roles: enterprises provide resources and standards; schools provide teachers and courses; schools and enterprises jointly assess, certify and issue vocational skill level certificates.

3.6. Promote the Construction of “Double Qualified” Teachers

The key to the cultivation of “double qualified” teachers is that teachers of vocational college can obtain opportunities to work and practice in appropriate enterprises while improving their theoretical teaching ability, so that they can continuously improve their practical skills. The training base can provide such an opportunity.

Both schools and enterprises can take the training base as a link and realize the mutual intersection of personnel of both sides through a mutually agreed way. On the one hand, a school can hire enterprise employees to settle in the training base for professional knowledge teaching. On the other hand, teachers of the school can combine some technical problems in the base and learn from the corresponding enterprises in their spare time such as summer and winter holidays to improve their practical ability. In this way, technology and process of the training base will be improved constantly, and

construction of “double qualified” teachers in vocational colleges will be promoted accordingly. At the same time, the relationship between schools and enterprises is closer, which also lays a foundation for the improvement of teaching content and the employment of graduates.

3.7. Improve a Scientific and Objective Evaluation System

Good operation and maintenance of the training base is inseparable from a scientific and objective evaluation system. At present, the actual situation is that some measurement indicators and weights are difficult to quantify, resulting in no comparability in the evaluation of the base. Because of this, there is no competition mechanism among bases. A scientific and objective evaluation system should be established and gradually improved by using the methods of questionnaire survey and analytic hierarchy process. A quantifiable evaluation system can not only form a competitive mechanism of survival of the fittest among bases, but also help bases find weak links and upgrade them accordingly.

3.8. Support the Construction of Innovation and Entrepreneurship Team

Innovation and entrepreneurship education is a subtle education. The main task of the education of innovative spirit and entrepreneurial consciousness is not to explain “what” and “why”, but to focus on solving “what to do” and “how to do”. On the one hand, the training base takes skill training and practical operation as the main teaching content, and has natural advantages in innovation and entrepreneurship education. On the other hand, the training base has built a bridge among schools, enterprises and the government, which can better support innovation and entrepreneurship education with the help of external social forces and form a good ecosystem. The method is to formulate a credit mechanism for innovation and entrepreneurship, and include technological inventions, technological skill competitions, patents and social practice into student credit accounting system; change the traditional teaching hour accounting method, integrate innovation and entrepreneurship organization activities of the base into the teacher workload accounting system, and systematically mobilize the initiative and enthusiasm of teachers’ participation.

4. CONCLUSION

Vocational education and general education are two different types of education with equal importance. In recent decades, vocational education has provided strong talent and intellectual support for Chinese economic and social development.

Different from general education, vocational education lays more emphasis on cultivating skilled talents with strong practical ability. The construction of practical training base strongly supports the cultivation of students' practical ability, and greatly promotes the development of vocational education.

The construction and maintenance of training bases should be reformed and optimized to better serve vocational education. This paper puts forward seven specific suggestions. These suggestions provide reference for the construction of practical training base of vocational colleges in the future.

AUTHORS' CONTRIBUTIONS

Xuelei Wang and Jinru Ma did the questionnaire survey and data collation. Shang Wang contributed significantly to analysis and manuscript preparation. Zhixin Feng helped perform the analysis with constructive discussions.

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