

Research on the Construction of School Enterprise Joint Construction Training Bases under the Background of Industry Education Integration

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Abstract

In recent years, vocational undergraduate education in China has been in an important stage of rapid development. Vigorously developing vocational undergraduate education is not only a high guarantee for the quality of human resources, but also a guarantee for the rapid development of socialist economy. As a complementary way of cultivating technical and skilled talents, "industry education integration and school enterprise cooperation" reflects the division of labor and cooperation between schools and enterprises, regional industries and vocational education, and local enterprises and vocational undergraduate colleges in knowledge transmission and skill training, enabling the integration of theoretical knowledge and practical skills, and resource sharing. Therefore, in the context of the integration of industry and education, the key measure to achieve the above goals is the joint construction of training bases by schools and enterprises. Currently, for many vocational undergraduate colleges, specialized training facilities have been established within the school. But the question is, can these training venues meet the learning needs of students or the teaching needs of teachers? In the process of school enterprise cooperation in the training base, are the rights and responsibilities of the school and the enterprise clear, and what are the roles they each play? These issues have become obstacles to the development of college training bases to a certain extent. By understanding the current situation of the construction of on campus training bases in vocational undergraduate colleges, based on the theoretical foundation of training base construction, this study identifies problems such as poor operation of school enterprise cooperation, waste of training resources, and the ability of training teachers in the construction of on campus training bases. The causes of these problems are analyzed and discussed, and some feasible improvement suggestions are proposed, such as clarifying the school enterprise joint construction system, clarifying the rights and responsibilities of both parties, optimizing resource allocation, strengthening teacher team construction, and increasing specialized management personnel for training bases. It is hoped that these suggestions can provide some reference for the development of other vocational undergraduate colleges.

Keywords

Industry Education Integration; Vocational Undergraduate Colleges; School Enterprise Cooperation.

1. Introduction

1.1. Research Background

In recent years, vocational undergraduate education in China has been in an important stage of rapid development. Vigorously developing vocational undergraduate education is not only an

important cornerstone for ensuring the quality of human resources, but also an important guarantee for the vigorous development of socialist economy. The integration of industry and education, as well as school enterprise cooperation, is a complementary way of cultivating technical and skilled talents. It can divide the work and cooperation between schools and enterprises, regional industries and vocational education, and local enterprises and vocational undergraduate colleges in knowledge transmission and skill training, so that theoretical knowledge and practical operation can be organically combined, and resource sharing can be achieved. Therefore, how to build a school enterprise joint training base under the background of industry education integration is a key issue that vocational undergraduate colleges urgently need to solve.

1.2. Current Research Status at Home and Abroad

1.2.1. Current Research Status Abroad

In foreign research on how to promote the integration of industry and education, Alexan der Leischnig and Anja Geigenm ü ller (2020) mentioned that technology transfer between industry and academia requires universities to maintain and strengthen research and technology capabilities, as well as develop and strengthen management capabilities to establish and manage relationships with external partners. They also explored the impact and improvement path of alliance management capabilities on the level of technology transfer in industry academia cooperation^[1]. Awasthy R, Flint S, Sankaranayana R, et al. proposed a framework for promoting industry academia cooperation, which includes nine aspects: understanding the diversity of interactive cooperation, identifying stakeholders, determining cooperation motivations, identifying suitable leaders, determining cooperation principles, establishing communication mechanisms, strengthening cooperation promotion, resolving intellectual property issues, and improving policy support systems. Regarding the analysis of obstacles to industry university cooperation^[2], Tumbas, Matkovic, P., Maric, M., Veselin, P. believe that although cooperation between universities and industries has significantly expanded, there is still a phenomenon where one or even both parties are dissatisfied with the implementation effect, and this problem stems from inadequate cooperation or insufficient organizational support ^[3]. By analyzing the support of different internal organizations of universities for industry university integration, and based on a detailed review of the operation process of industry university cooperation centers within universities, it is proposed that industry university cooperation should pay attention to capabilities and resources; Legal issues and contractual mechanisms; Management and organizational issues; Issues related to technology; Political issues; Social and other issues, particularly emphasizing the significant impact of organizational management factors on industry university cooperation.

1.2.2. Current Research Status in China

Most domestic universities began to expand their enrollment in higher education after the year 2000. At this time, the understanding of vocational education in the education sector shifted from scale expansion to the connotation construction of industry education integration. In terms of works, "On the Economic Motivation of Industry University Research Cooperation in Higher Vocational and Technical Education" (Xue Peijun, Li Zongquan, 2003) discussed the economic motivation of industry university research cooperation^[4]; The 'Only Way: Operational Guidelines for the Integration of Industry, University, and Research in Vocational Undergraduate Education' (2004 by the Higher Education Department of the Ministry of Education of the People's Republic of China) is an operational guide based on an example model; The research on the long-term mechanism of school enterprise cooperation in vocational undergraduate education based on game theory (Qi Zaiqian, 2016) established the overall framework of the long-term mechanism of school enterprise cooperation based on game theory ^[5]. In terms of doctoral dissertations, "Research on the Impact of Absorption Capacity on the

Performance of School Enterprise Cooperation" (Deng Yingxiang, 2011) explored the specific operational forms of absorption capacity in school enterprise cooperation^[6], "Research on the Mechanism of School Enterprise Cooperation in Cultivating" Dual Teacher "Vocational Education Teachers" (Xie Yongqi, 2014) provided reference for government departments to formulate and improve "Dual Teacher" Vocational Education Teacher Training Policies^[7]. "Research on the Construction of China's Vocational Education School Enterprise Cooperation System" (Zhou Jing, 2015) constructed an analytical framework for vocational education school enterprise cooperation system from the perspective of comprehensive human development^[8]. "Research on the Power of Industry Education Integration in Applied Higher Education" (Chen Xing, 2017) proposed that concepts, interests, resources, and systems jointly constitute an analytical framework that affects the power of industry education integration in applied higher education.^[9] "Research on the Impact of School Enterprise Cooperation on the Research Performance of Chinese Universities" (Zhang Ben, 2018) Study the impact of school enterprise cooperation on the research performance of universities from the perspectives of organizational level, individual level, and cross level^[10]; The research on training bases in China started relatively late, but has developed rapidly. The phenomenon of homogenization is quite serious, and many of them start from interpreting national policies and discussing the construction of integrated training between industry and education, without much exploration or insufficient research; Due to the short practical time and small pilot scope, there is relatively little research on the management system of the construction and operation mechanism of the deep integration of industry and education training base; Lack of research on ways and methods for vocational undergraduate colleges to collaborate with leading enterprises, and so on.

In summary, there is relatively little research on the joint construction of training bases between vocational undergraduate colleges and enterprises, mostly at the theoretical research level. In the practical operation stage, further efforts are needed to improve and optimize the research results.

2. Research Significance

2.1. Theoretical Significance

At present, there is a large amount of research literature on the construction of practical training bases in vocational education, but there is not much research on the construction of practical training bases in vocational undergraduate colleges at the level of school enterprise cooperation, and the depth and breadth are relatively insufficient. In related papers, research has been conducted from the perspectives of "intensive concept" and "integration", but no research results have been found on vocational undergraduate training bases from the background of "industry education integration". This article aims to study vocational undergraduate training bases for school enterprise cooperation under the background of "industry education integration".

2.2. Practical Significance

Unlike ordinary universities, the training objectives, methods, evaluation system, and development model of vocational undergraduate programs should closely follow the characteristics of vocational undergraduate institutions, and integrate the construction of training rooms in design practice, rather than simply applying the design model of teaching and training bases in ordinary higher education institutions. The training mode of vocational undergraduate education is the combination of engineering and practical training, especially in the context of "industry education integration", where the training base will combine more functions. The role and positioning of the school's functions, including those of enterprises, will

also undergo a qualitative change. This article attempts to propose a comprehensive design strategy for the construction of vocational undergraduate colleges' school enterprise cooperation training bases. Through the sorting and research of the design strategy, starting from the actual needs and functions of vocational undergraduate colleges, it provides reference for the construction of practical paths.

3. Analysis of the Current Situation of School Enterprise Cooperation and Joint Construction of Training Bases under the Background of Industry Education Integration

The integration of industry and education refers to the most direct and effective external performance of vocational colleges through deep level cooperation between industry, academia, and research. It is a key place and important link in talent cultivation, enhancing the level of talent cultivation and service regional economic capacity of vocational colleges, and realizing the educational model of various participants and schools and enterprises jointly building training bases. That's right.

It is also an effective way to improve the quality of talent and increase students' competitiveness in employment.

The model of jointly building training bases between schools and enterprises currently has some common operational issues, as follows:

3.1. The Degree of School Enterprise Cooperation is Still Shallow and Has Not Reached a High Degree of Integration

3.1.1. The Duration of Cooperation between Schools and Enterprises is Difficult to Sustain

Enterprises and schools are two different entities with different industries and backgrounds. Schools focus on cultivating students' technical skills to serve society, while enterprises, especially profit oriented enterprises, pursue the maximization of enterprise value as their primary goal. Although both will conduct job training, enterprises are a subject that pursues economic benefits. Although enterprises also focus on training workers' technical skills, they do not provide organized and planned education to students like schools. Enterprises only promote workers to bring greater benefits through short-term job training. These two types of training under different goal setting states are difficult to sustain indefinitely, presenting a beginning that is always grand and then gradually fades away and disappears. Vocational undergraduate colleges hope that companies can regularly send their employees to work as part-time teachers at the school, while also regularly accepting "dual qualified" teachers from the school to study and conduct research in the company; On the other hand, enterprises hope that through school enterprise cooperation, students can quickly create profits for the enterprise. However, this cooperation will eventually fade away due to differences in everyone's wishes.

3.1.2. The Cooperation Projects between Schools and enterprises have Not Reached the Corresponding Height

The integration of industry and education, cooperation between schools and enterprises, and the establishment of training bases are important measures to achieve the construction goals of vocational undergraduate colleges. However, in the process of building training bases, many vocational colleges and enterprises have low participation, insufficient interaction between schools and enterprises, and have not been integrated into the actual construction of training rooms. At the same time, the training cooperation projects are too single, and the update of training resources is slow. Students cannot truly integrate into the cutting-edge practical skills learning of enterprises, and there is still a gap between the required skill level of practitioners

and the enterprise. Therefore, the training cooperation projects are too single, and the update of training resources is slow. The training and participation of relevant talents in the construction of training bases by enterprises cannot be effectively sustained; On the other hand, the construction of the school enterprise cooperation system lacks standardization, and a relatively complete management system for school enterprise cooperation has not yet been formed. Enterprises are relatively passive in the construction of training bases, and they do not know their position in the process of training base construction. This leads to problems such as procrastination, inadequate management methods, and lack of relevant institutional norms in the construction of training bases.

3.2. Insufficient Teaching Staff in the Training Base

The practical training ability of the training base teachers is very important, and the practical experience of the training teachers in enterprises is also very important. However, many professional course teachers have limited time and opportunities to enter the enterprise for learning, and the improvement of their practical training level cannot meet the expected teaching goals. Especially in vocational undergraduate colleges, most teachers are currently introduced from universities without enterprise work experience or frontline operation experience. Therefore, compared with part-time teachers in enterprises, these teachers have average practical abilities, which leads to the insufficient proportion of "dual teacher" teachers in the practical training base, inevitably causing a disconnect between theory and practice, poor practical teaching effect, and difficulty in achieving the requirements of talent training goals.

4. Analysis of the Reasons for the Problems in the Construction of on Campus Training Bases

4.1. The Starting Points for Seeking Cooperation between Schools and Enterprises are Different

The school's demand for enterprises in the joint construction and training platform project of industry education integration through school enterprise cooperation is that they hope enterprises can provide the most cutting-edge practical skills, the most practical training software and other teaching resources. As enterprises, they hope to cooperate with the school to quickly introduce students into the enterprise and integrate them into their roles through training, thereby reducing labor costs. At the same time, cooperating with the school can also increase its own brand effectiveness, respond to national calls, and obtain policy support and other derived external benefits. It can be seen that the enterprise's participation in industry education integration projects is a highly short-term behavior, and does not pay much attention to the long-term. The school's participation in industry education integration projects is a long-term behavior, which is a gradual and progressive approach, with the main purpose of cultivating students' comprehensive skills and continuous learning ability. This will inevitably form a kind of external benefits. Contradictory thinking in cooperation, The inability to sustain long-term cooperation has resulted in a significant reduction in the effectiveness of the industry education integration and school enterprise cooperation in jointly building a training platform project.

4.2. Schools and Individual Teachers are Not Actively Involved in Training

In terms of the composition of the teaching staff in the training base, the educational level and professional title level of the teachers are relatively high. However, the training instructors lack practical experience in enterprises, and it is not enough to have the support of high education and professional titles. The demand for practical skills and time management in modern vocational undergraduate education is increasing day by day. Teachers' practical experience in enterprises can better help them transform knowledge into personal experience in their work

and pass it on to students. Although schools require teachers to spend time in enterprises to exercise and improve their practical skills, they have not introduced corresponding scientific and effective policies, or although policies have been introduced, their requirements run counter to the essence of practical training. For example, some schools only require teachers to suspend their positions for one month during winter and summer vacations to ensure the practical skills requirements of teachers, which is simply superficial. The time training effect of practical training teachers is not satisfactory, resulting in a serious lack of frequency and duration of teachers' practical experience in enterprises. This kind of thinking has led to a lack of personal enthusiasm for teacher enterprise practice. At the same time, the school has not included the enterprise practice of practical training teachers in the teacher subsidy. Practical training teachers believe that they have not received the welfare benefits that the school should provide when they practice in enterprises, which has also led to the current situation where teachers are unwilling to enter the enterprise practice.

5. Strategies for the Construction of Training Bases through Industry Education Integration and School Enterprise Cooperation

5.1. Deepening Cooperation between Schools and Enterprises, Seeking Win-win Outcomes

Both schools and enterprises need to actively promote the construction of on campus training bases, meet training needs, strengthen cooperation between schools and enterprises, fully utilize the resource advantages of enterprises and the advantages of learning sources, and jointly build training bases between schools and enterprises. These are the two most important stakeholders for achieving comprehensive and perfect construction of on campus training bases. In order to avoid the problem of superficial or inefficient cooperation between schools and enterprises during the construction of on campus training bases, both parties must promote cooperation through negotiation, clarify the rights and responsibilities of both parties, explain the cooperation system, responsibilities and obligations, stabilize the cooperation relationship between schools and enterprises, and achieve more long-term and in-depth cooperation.

5.1.1. Both Schools and Enterprises Jointly Develop Learning Materials

The cooperation between schools and enterprises can take the development of teaching materials as a breakthrough point. The technical skilled students cultivated by schools are technical talents who will enter society and work on the front line of industries and enterprises after graduation. Therefore, enterprises can have a clear understanding of their employment needs, and at the same time, they can identify the shortcomings of school student training from a technical operational perspective. This way, when schools formulate teaching plans and student training programs, they can provide some suggestions from enterprises to enhance students' abilities and adaptability in employment. Both schools and enterprises collaborate to jointly develop learning materials and target the students needed by enterprises. This not only solves the employment problems of students and clarifies some employment directions for them, but also allows enterprises to propose the required student types in advance to employers, facilitating the recruitment of employees. School enterprise cooperation has brought convenience to both parties, promoting a win-win situation of school enterprise cooperation in educating people. The school needs funding and technical support from enterprises to achieve the construction and improvement of the school's training base and the upgrading of equipment through the funds provided by enterprises and the donation of new equipment. At the same time, enterprises need the reputation and source of students of schools to benefit them. For example, through joint enrollment with schools, enterprises can promote

order classes, and schools and enterprises can jointly cultivate and meet the production needs of enterprises, while also improving the employment rate of schools

5.1.2. Both Schools and Enterprises Should Clarify Their Rights and Responsibilities, and Each Should Fulfill Their Respective Duties

The pursuit of cooperation between schools and enterprises is to exchange and exchange the resources owned by schools and enterprises. Schools provide talent and labor for enterprises, while enterprises provide training for school teachers, internship opportunities for students, and so on. The cooperation between schools and enterprises needs to be established on the basis of mutual recognition, agreeing on the rights and obligations of both parties in the cooperation, clarifying each other's rights and responsibilities, and ultimately specifying the cooperation plan. Cooperation can only be carried out based on the plan, and only such cooperation can be long-lasting and stable. If students from higher vocational schools do not enter enterprises for training, it is difficult for them to meet the standards of employment needs of enterprises. Enterprises provide students with opportunities for on-the-job internships for schools, while also investing in equipment and technology to enable schools to have more advanced technology and equipment.

5.2. Constructing Simulation Training Rooms to Improve the Level of Informatization

5.2.1. Improve the Informatization Level of the Training Base and Build Simulation Training Rooms

The construction of on campus training bases is for better practical training, but attention should also be paid to the problem of wastage of training resources. Training should be built on the level of resource conservation. After students reach a certain level of practical ability, they must undergo real knife and gun training. However, when their abilities are not up to standard and their technical mastery is not very outstanding, schools can allow students to undergo training in the form of simulation. The establishment of a simulation training room can allow students to immerse themselves in the experience and repeatedly perform similar skills, which can avoid resource waste and safety hazards caused by students' unfamiliarity. At the same time, a dedicated person is assigned to manage the daily training equipment, maintenance, and management of the training base, in order to avoid the occurrence of disorderly work and untimely equipment maintenance. By regularly providing professional training and safety education to guidance teachers, especially full-time management personnel selected from enterprises, school administration, or teaching staff, schools should increase their training and publicity efforts, promote their role transformation as soon as possible, fully control the operation and management process of the training base, ensure the normal operation and practical teaching of the training base, and ensure the smooth progress of scientific development.

5.2.2. Fully Utilize the Functions of the Training Base Beyond Teaching

The on campus training bases of vocational undergraduate colleges mainly undertake the practical learning tasks of students and the teaching tasks of teachers. The school's main work task is talent cultivation. At the same time, the on campus training bases of vocational undergraduate colleges also undertake other functions, such as social services and training. The training base can complete the vocational skills training of talents and provide professional and technical talents to society. The information-based training base can significantly improve the utilization rate of the training base, while reducing losses, and can drive the construction of on campus training bases. Its functions should be fully utilized, and it should actively undertake tasks beyond the school's teaching tasks, so that the construction of the training base can make

full use of everything. It should not focus on teaching over training, and maximize the functions of the training base construction.

5.3. Enhance the "Dual Teacher" Quality of Teachers in the Training Base

The training base aims to improve students' theoretical level and practical operation ability, and enhance the integration of teachers' professional theoretical and practical abilities. External introduction of teachers alone cannot solve the problem. To establish a mechanism that combines introduction and internal training, a "dual teacher" teacher team is needed to fundamentally solve the problems of the training base. Vocational undergraduate colleges should not only focus their attention on the campus, but also pay more attention to enterprises outside the campus. It is necessary to establish a system for teachers to practice in enterprises and hire experienced enterprise employees. Higher vocational schools should give more attention to practical training teachers.

5.3.1. Encourage Practical Training Teachers to Enter Enterprises for Training

There are many ways to cultivate a dual teacher team in vocational undergraduate training bases. Firstly, for existing training teachers who enter enterprises for centralized training, based on their existing teaching ability level, the school should encourage them to enter enterprises and provide more opportunities for them to practice. This not only promotes school enterprise cooperation, but also guides the professional development and career planning of training teachers. Schools should provide training teachers with the necessary welfare policies and benefits for outdoor practice, and enhance their willingness to participate in corporate training through these methods, thereby promoting their initiative to participate in training. Schools can encourage practical training teachers to use winter and summer vacations to bring skilled theoretical instructors and technical instructors into enterprises together. This can not only improve teachers' proficient theoretical literacy and operational skills, but also jointly enhance their professional ethics, and through continuous learning and discussion, achieve other aspects of learning through continuous contact. This collaboration has generated new teaching insights for teachers and created the "dual teacher" type of teachers that students truly need.

5.3.2. Hire Employees with Business Experience to Enter the School

In addition to training practical training teachers, vocational undergraduate colleges should also formulate corresponding policies for introducing talents, and make up for the shortage of "dual qualified" teachers in vocational undergraduate colleges through joint negotiations between schools, enterprise personnel, or technical talents in society. Due to the fact that many vocational undergraduate colleges currently hire part-time teachers to provide practical guidance to professional students, some professional course teachers only undertake theoretical teaching tasks and have limited exposure to practical teaching. Therefore, for experienced enterprise employees, schools should provide clear introduction strategies to ensure the treatment of experienced enterprise employees entering schools as teachers. Through pre job training and teacher qualification training, such personnel should be formally hired as training teachers in the training base. It should be noted that most schools now recognize the importance of practical training. Enterprise staff lack systematic mastery of students' theoretical knowledge. Some schools have achieved good results in increasing the development of relevant teaching experience in order to improve students' hands-on ability, and have trained teachers from enterprises from multiple aspects and perspectives. Establish a collaborative relationship between the teaching and practice of theory and technology, and learn from each other through project analysis or project development. Excessive emphasis on practical teaching and neglect of theoretical teaching have led teachers to focus solely on practice, resulting in a lack of theoretical knowledge among students.

Schools should encourage practical training teachers hired from enterprises to collaborate with professional theoretical teachers, increase opportunities for communication and exchange, and allow practical training teachers to enter theoretical classrooms and listen to lectures from professional theoretical teachers to enhance the theoretical knowledge of practical training. At the same time, it has also achieved good results in increasing the development of relevant teaching experience, and has trained teachers from enterprises from multiple perspectives and aspects. Establish a collaborative relationship between the teaching and practice of theory and technology, and learn from each other through project analysis or project development.

6. Conclusion

For the construction of on campus training bases in vocational undergraduate colleges, the school is the main body of the construction investment, and the construction and management of the training bases are fully responsible by the school. Schools should attach importance to the cultivation of practical training teachers, the appointment of part-time teachers, the creation of practical teaching, and the maintenance and updating of practical teaching equipment. These are important influencing factors related to the development of on campus training bases. The construction of practical training bases is a measure that affects the local economy, an important learning place to increase students' hands-on practical abilities, a favorable advantage to promote talent cultivation and development, and an important way to cultivate students' practical abilities and improve their hands-on abilities. The implementation of vocational undergraduate training base projects should seek various forms of cooperation with enterprises, as well as some deep, stable and long-term cooperation. For example, schools and enterprises should jointly participate in research projects, and training base teachers should also enter enterprises for training. At the same time, schools should also hire outstanding employees from enterprises as part-time teachers, which can enrich the work experience of teachers and employees, add elements of enterprises to the talent cultivation of vocational undergraduate colleges, and promote win-win cooperation between schools and enterprises. The construction of a training base is also very important in terms of faculty development for on campus training. As guides and leaders for students' learning and growth, teachers play a crucial role in a school's teaching staff, and the same goes for vocational undergraduate colleges' on campus training bases. The quality and effectiveness of students' training are seriously affected by the amount of teaching staff. For the teaching staff of the training base, it is necessary to enhance the professional level of teachers and improve their practical guidance ability. On the other hand, it is also necessary to enhance the practical experience of training teachers in enterprises, provide various experiential references for training teaching, and promote the improvement of training teaching.

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