

Research on the Challenges and Paths of Industry Education Integration in Vocational Colleges

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Abstract: This article aims to explore the challenges and effective paths that vocational colleges face in deepening the integration of industry and education. The integration of industry and education, as an important trend in the development of higher vocational education, aims to improve the quality of talent cultivation and meet market demand through the close integration of education and industry. However, vocational colleges currently face many challenges in the practice of integrating industry and education, including low enthusiasm for enterprise participation, insufficient practical experience of teachers, and poor information exchange. To address these issues, this article proposes a series of strategies and paths: firstly, to strengthen the guiding role of enterprises and enhance their enthusiasm and initiative in participating in the integration of industry and education; Secondly, strengthen the construction of the teaching staff, enhance their practical abilities and market awareness; Once again, establish an information exchange platform to promote effective communication and resource sharing between schools and enterprises; Finally, optimize the practical teaching process to enhance students' practical abilities and professional competitiveness. By implementing these strategies, this article aims to provide theoretical basis and practical guidance for vocational colleges to deepen the integration of industry and education, promote the comprehensive improvement of vocational education quality, and provide strong talent support for social and economic development.

Keywords: Integration of Industry and Education; Quality of Talent Cultivation; Policy Support.

1. Introduction

The integration of industry and education is a popular research field both domestically and internationally, and the current research status at home and abroad is showing a thriving trend.

In China, research on the integration of industry and education mainly focuses on policy promotion, school enterprise interaction, talent cultivation, and other aspects. In recent years, the Chinese government has attached great importance to the development of industry education integration and issued a series of policy documents, such as the "Opinions on Deepening Industry Education Integration" and the "Implementation Plan for Vocational Education Reform", which provide institutional guarantees and policy support for industry education integration. These policies not only clarify the development direction and goals of industry education integration, but also propose specific implementation paths and measures, promoting the widespread development of industry education integration nationwide. The integration of industry and education in China has continuously innovated in cooperation models, forming various effective school enterprise cooperation models. For example, jointly building industrial colleges, deepening cooperation between schools and enterprises, implementing order based training, and creating internship and training bases. These models have achieved resource sharing and complementary advantages through close cooperation between schools and enterprises, improving the pertinence and effectiveness of talent cultivation. With the upgrading of industries and economic development, there is a strong demand for the integration of industry and education in the domestic market, and the market size continues to expand. At the same time, the market competition pattern also presents diversified characteristics, including various entities

such as universities, vocational colleges, enterprises, and research institutions, which have joined the tide of industry education integration to jointly promote industrial development. The government has introduced a series of policies to support the integration of industry and education, such as jointly building training bases and promoting school enterprise cooperation. These measures effectively promote the close integration of education and industry, and improve the quality of talent cultivation. However, there are still some challenges in the integration of industry and education in China, such as inadequate cooperation mechanisms and unequal distribution of resources.

In foreign countries, research on the integration of industry and education started earlier and has already formed a relatively mature theoretical system and practical model. For example, Germany's "dual system" vocational education model is a typical representative of industry education integration. The success of Germany's dual vocational education model is largely attributed to the close cooperation between enterprises and schools. This cooperation is not only reflected in the mutual cooperation in the teaching process, but also in the deep level cooperation of resource sharing and complementary advantages. The dual vocational education model in Germany emphasizes the cultivation of practical skills, with students spending most of their time receiving practical training in enterprises while learning professional theoretical knowledge in schools. This teaching method that combines theory with practice enables students to better master vocational skills and improve their employment competitiveness. The successful implementation of the dual system vocational education model in Germany cannot be separated from sound legal and regulatory guarantees. The German government has established a series of laws and regulations to clarify the responsibilities and obligations of enterprises in vocational education, providing strong

guarantees for the smooth implementation of industry education integration. The dual vocational education model in Germany emphasizes the cultivation of high-level skilled teachers, who not only possess solid professional theoretical knowledge but also rich practical experience.

The integration of industry and education has received widespread attention and in-depth research both domestically and internationally, and different countries and regions have their unique experiences and practices in this regard. In the future, with the development of globalization and informatization, the trend of industry education integration will become more apparent, which is of great significance for improving the quality of talent cultivation and promoting economic and social development.

With the rapid development of China's economy and the deep adjustment of industrial structure, vocational colleges, as important bases for cultivating high skilled talents, have increasingly highlighted the importance of industry education integration. The integration of industry and education not only helps to improve the quality of education and promote student employment, but also promotes the development of regional economy. However, in the actual operation process, the integration of industry and education in vocational colleges faces many difficulties. This article will explore in depth from three aspects: value demands, practical difficulties, and path selection.

2. The Value Proposition of the Integration of Industry and Education in Vocational Colleges

The value demands of deepening the integration of industry and education in vocational colleges are mainly reflected in the following aspects.

2.1. Meeting the Needs of Industrial Development

Adapting to market demand: With the rapid development of the economy, the demand for high-quality and high skilled talents in the market is increasing day by day. Through the integration of industry and education, vocational colleges can better meet market demand, provide skill training that meets the actual needs of enterprises, and thus meet the needs of industrial development.

Improving talent quality: Through deep cooperation with enterprises, vocational colleges can introduce practical work projects and practical experience, allowing students to be exposed to real work environments and practical problems during their school years, thereby enhancing their practical abilities and comprehensive qualities, and cultivating technical and skilled talents that better meet the needs of enterprises.

2.2. Improving Students' Employment Competitiveness

Enhancing practical abilities: The integration of industry and education can provide students with more practical opportunities, enabling them to continuously accumulate practical experience, improve their practical skills and problem-solving abilities during the learning process.

Expanding employment channels: Through close cooperation with enterprises, vocational colleges can provide students with more internship and employment opportunities, helping them better understand market demand and industry

trends, and laying a solid foundation for future career development.

2.3. Promote Win-Win Cooperation between Schools and Enterprises

Resource sharing: The integration of industry and education can achieve resource sharing between schools and enterprises, including teaching equipment, practical experience, teaching staff, etc., thereby improving the efficiency of resource utilization.

Collaborative innovation: Through school enterprise cooperation, vocational colleges and enterprises can jointly carry out scientific research projects and technological innovation activities, promote the deep integration of industry, academia and research, and achieve collaborative innovation.

Brand building: The integration of industry and education helps to enhance the brand image and visibility of vocational colleges, increase their attractiveness and influence, and thus attract more high-quality students and opportunities for business cooperation.

2.4. Promoting Educational and Teaching Reform

Optimize course offerings: Based on the actual needs of enterprises and industry development trends, vocational colleges can adjust and optimize course offerings to make course content more closely aligned with practical work needs.

Innovative teaching mode: The integration of industry and education can promote the innovation of teaching mode in vocational colleges, adopt more flexible and diverse teaching methods and means, improve teaching effectiveness and students' learning interest.

3. The Realistic Dilemma of the Integration of Production and Education in Higher Vocational Colleges

Although the integration of production and education is of great significance to the development of higher vocational colleges, it still faces many difficulties in the actual operation process.

3.1. Low Enthusiasm of Enterprises

The low enthusiasm of enterprises in the integration of industry and education is manifested in various aspects, including funding investment, personnel investment, cooperation plans, intellectual property rights, research and development capabilities, rights sharing mechanisms, and policy environment.

Cautious investment in funds: When enterprises participate in the integration of industry and education, they are relatively cautious in their investment in funds, which may result in reservations in their investment due to financial pressure or uncertainty about the long-term benefits of the project.

Weak willingness to invest personnel: Enterprises have a weak willingness to invest in personnel dispatch, guidance, and other aspects, and may lack specialized teams or personnel to be responsible for industry education integration projects, or may consider these tasks not to be the core business of the enterprise.

Not proactive enough in accepting internship practices: Enterprises may not be proactive enough in accepting student internship practices, possibly due to concerns about affecting

daily operations, leaking trade secrets, or increasing management costs, resulting in less proactive acceptance and management of interns.

Lack of systematicity and comprehensiveness in cooperation plans: When formulating industry education integration cooperation plans, enterprises often focus on specific issues and lack systematicity and comprehensiveness. Perhaps school enterprise cooperation has not been included in the company's long-term human resource planning and research and development plans, resulting in short-term and fragmented cooperation projects. **Intellectual property issues:** In the process of integrating industry and education, the ownership and distribution of intellectual property rights may become an important reason for the low enthusiasm of enterprises. Enterprises may be concerned that the intellectual property generated during the cooperation process may be monopolized by universities or other partners, thereby harming the interests of the enterprise.

Insufficient R&D capabilities and demand for R&D talents: Some enterprises lack their own R&D capabilities and demand for R&D talents, resulting in a weak demand for the integration of industry and education. These companies may be more inclined to meet production needs through direct recruitment or purchasing equipment, rather than collaborating with universities to cultivate talent. **The mechanism of power sharing has not yet been established:** in cooperation with universities, enterprises need to be granted certain rights and benefits, otherwise there will be no enthusiasm. For example, in talent cultivation, corporate mentors may lack guidance or negotiation guidance on student thesis topics; At the same time, there is a demand for technical or managerial personnel within the enterprise to enhance their education, but this demand is often not fully considered in school enterprise cooperation.

The policy environment with insufficient incentive effect: Although the country has introduced a series of policies to promote the integration of industry and education in recent years, some policies still have insufficient incentive effect and lack systematization, resulting in insufficient motivation for enterprises to participate in the integration of industry and education.

3.2. Teachers Lack Practical Experience

Many university teachers enter the education industry directly after graduation, lacking practical work experience in enterprises or industries. Teachers face both heavy teaching and research tasks, making it difficult to allocate a significant amount of time to participate in corporate practices or industry projects. The cooperation mechanism between some universities and enterprises is not yet perfect, which makes it difficult for teachers to obtain practical opportunities or resources. The current evaluation system for university teachers often focuses on scientific research achievements and academic papers, with insufficient emphasis on practical experience. Due to the above reasons, many teachers in vocational colleges lack practical experience and market awareness, and are unable to provide effective support for industry education integration projects. This leads to a disconnect between teaching content and actual production needs, affecting the quality of student training.

3.3. Lack of Effective Information Exchange Platform

Asymmetric information: The phenomenon of asymmetric

information between vocational colleges and enterprises is particularly prominent in terms of talent supply and demand, technological innovation, and industrial development trends. Vocational colleges often find it difficult to accurately obtain talent demand information from enterprises, and enterprises also find it difficult to fully understand the educational resources and talent cultivation situation of vocational colleges. This information asymmetry makes it difficult for both parties to form effective coordination and complementarity during the cooperation process.

Insufficient construction of communication platforms: Some vocational colleges have relatively lagging information platform construction, lacking complete information release, query, and interaction functions. This makes it difficult for companies to obtain the necessary talent information and educational resources in a timely manner through the platform, and students are also unable to understand the company's recruitment needs and internship opportunities through the platform. **Single platform function:** Some established information platforms have a single function, mainly focusing on information publishing and querying, lacking in-depth interaction and cooperation functions. This makes it difficult for the platform to become an effective communication bridge between vocational colleges and enterprises.

3.4. Insufficient Policy Support

Despite the increasing support for the integration of industry and education policies, there are still some challenges to be faced. There are problems such as lagging policy formulation and implementation, lack of targeted and operable policies, incomplete policy coordination mechanisms, insufficient policy support, and a lack of policy evaluation and feedback mechanisms.

3.4.1. The Lag in Policy Formulation and Implementation

There are many macro policies, but few specific details: Although a series of policy documents on the integration of industry and education have been issued at the national level, the implementation details at the local and industry levels are often lagging behind or lacking, making it difficult for policies to be implemented effectively.

Imperfect laws and regulations: So far, China has not yet enacted a single legislation on the integration of industry and education, and the legal status of the policy of industry education integration is not clear enough, with weak binding force. This has to some extent affected the effectiveness of policy implementation.

3.4.2. Policy Lacks Specificity and Operability

The policy content is broad: Many policies on the integration of industry and education are relatively broad in content, lacking specific, detailed, quantifiable, and actionable implementation rules, resulting in a large degree of discretion in the policy implementation process, which affects the effectiveness of policy implementation.

Lack of industry-specific policies: There are relatively few policies for the integration of industry and education in different industries and fields, which are difficult to meet the actual needs of different industries and fields.

3.4.3. Imperfect Policy Coordination Mechanism

Poor coordination among participating entities: The policy of integrating industry and education involves multiple participating entities such as the government, schools, and enterprises, but the coordination among them is poor, and

problems such as fragmentation and redundant construction are prone to occur during the policy implementation process.

Imperfect incentive mechanism: enterprises, schools and other subjects that actively participate in the integration of production and education lack effective incentive mechanism and safeguard measures, resulting in their enthusiasm and depth of participation in the integration of production and education.

3.4.4. Insufficient Policy Support

Insufficient funding: The integration of industry and education requires a significant amount of funding to support the construction of training bases, faculty development, curriculum development, and other related work. However, currently many places have insufficient funding for the integration of industry and education, making it difficult to meet actual needs.

Imperfect incentive mechanism: There is a lack of effective incentive mechanisms and guarantee measures for enterprises, schools and other entities that actively participate in the integration of industry and education, resulting in insufficient enthusiasm and depth of their participation in the integration of industry and education.

3.4.5. Lack of Policy Evaluation and Feedback Mechanism

The evaluation mechanism is not sound: Currently, many places lack a scientific and effective evaluation mechanism for the integration of industry and education policies, which cannot objectively evaluate the effectiveness of policy implementation. This leads to the inability to timely identify and address issues and deficiencies in policy implementation.

The feedback mechanism is not perfect: the implementation effect of the policy of integrating industry and education needs timely feedback and adjustment. However, many places currently lack effective feedback mechanisms in the implementation of industry education integration policies, resulting in lagging policy adjustments and optimizations.

3.5. The Disconnect between Talent Cultivation and Market Demand

Some vocational colleges have a significant disconnect from market demand in terms of professional offerings, course offerings, and teaching content. This results in the knowledge and skills learned by students during their school years being difficult to adapt to the actual needs of enterprises, affecting their employment and career development.

4. Path Selection for the Integration of Industry and Education in Vocational Colleges

To solve the above difficulties, vocational colleges should adopt the following paths to promote the in-depth development of industry education integration.

4.1. Strengthen Government Guidance and Support

The government should increase the effective supply of supporting policies and regulations to provide policy guarantees for vocational colleges to deepen the integration of industry and education. At the same time, we will improve the guarantee mechanism and provide broader growth opportunities for both schools and enterprises. For example,

stimulating the enthusiasm of enterprises to participate in the integration of industry and education through policy measures such as tax incentives and talent training subsidies.

4.2. Establish a Close Mechanism for School Enterprise Cooperation

Vocational colleges should have close contact and communication mechanisms with enterprises to ensure that both parties can reach consensus on cooperation goals and responsibilities. Deepen school enterprise cooperation through joint research and development, joint training, and other means to achieve resource sharing and mutual benefit.

4.3. Strengthening the Construction of the Teaching Staff

Vocational colleges should increase their efforts to attract more teachers with industry experience and professional skills to join. At the same time, strengthen the enterprise training, practice, assessment and other aspects of in-service teachers to improve their professional competence and teaching ability. By cultivating "dual teacher" teachers, we ensure that teaching content is closely aligned with actual production needs.

4.4. Optimize Professional Settings and Curriculum System

Vocational colleges should closely monitor changes in market demand and adjust their major and course offerings in a timely manner. Integrating excellent cultural and professional qualities into existing professional courses, with a focus on cultivating students' innovation and entrepreneurship abilities and technical skills. At the same time, actively developing high-quality course resources for enterprises to achieve seamless integration between courses and positions.

4.5. Building an Information Exchange Platform

Vocational colleges should establish information exchange platforms to strengthen communication and information sharing between schools and enterprises. By regularly organizing exchange meetings, seminars, and other activities, we aim to promote a deeper understanding and exploration of the cooperation project between both parties. In addition, utilizing modern information technology to establish an online communication platform enables real-time communication and information sharing between schools and enterprises.

4.6. Improve the Evaluation Mechanism

Establish a scientific and effective evaluation mechanism to objectively assess the effectiveness of vocational education industry education integration. Timely discover and solve problems and deficiencies in the integration of industry and education through regular evaluations and irregular inspections and feedback. At the same time, third-party evaluation agencies are introduced to comprehensively monitor and evaluate the integration of industry and education projects, ensuring the effectiveness of the integration.

4.7. Promote Regional Coordinated Development

In response to the problem of resource scarcity in the

central and western regions and underdeveloped areas, the government should increase policy support for these regions, optimize industrial structure, and promote regional coordinated development. Narrowing the regional development gap and promoting balanced development of vocational education industry education integration through regional cooperation, resource sharing, and other means.

5. Conclusion

Deepening the integration of industry and education in higher vocational colleges is an important way to improve the quality of education, promote student employment, and promote regional economic development. However, there are still many difficulties and challenges in the actual operation process. Therefore, vocational colleges should effectively strengthen the improvement and innovation of enterprise participation, teachers' practical ability, information sharing and practical teaching, and provide more effective path choices for the development of vocational colleges, while supporting the economic development and technological progress of the whole society.

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