Region-Educational Research and Reviews, 2025,Volume 7, Issue 4
DOI:10.12238/rerr.v7i4.3872
ISSN Online:2661-4634
ISSN Print:2661-4626

Research on High-quality Development Strategy of Vocational Education based on Integration of Production and Education

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Abstract: In the context of rapid economic development and continuous upgrading of industrial structure, the high-quality development of vocational education has become a key force to promote economic and social progress. As the core model of vocational education development, the integration of production and education plays an irreplaceable role in improving the quality of talent training and promoting industrial upgrading. This paper deeply analyzes the significance of the integration of production and education in the high-quality development of vocational education, systematically combs the current challenges, and puts forward targeted development strategies based on actual cases, aiming at providing theoretical support and practical guidance for the sustainable development of vocational education.

Keywords: integration of production and education, vocational education, High quality development, tactics

Introduction

Vocational education is a key part of the national education system and human resources development, and bears the important responsibility of cultivating high-quality technical talents and promoting employment and entrepreneurship. In the new era of accelerating global scientific and technological revolution and industrial transformation, the contradiction between traditional vocational education model and industrial demand has become increasingly prominent, and the integration of industry and education, as a key path to solve this contradiction, has attracted wide attention. Through the integration of industry and education, vocational education can closely connect with industrial needs, integrate education and industrial resources, achieve an accurate match between talent training and market demand, and provide strong talent support and intellectual guarantee for economic and social development.

1. The significance of the integration of production and education for the high-quality development of vocational education

1.1 Improving the quality of personnel training

The integration of production and education encourages vocational colleges to formulate talent training programs according to the actual needs of enterprises, and integrate the production standards, technological processes and professional quality requirements of enterprises into the teaching content. By learning and practicing in a real working environment, students can not only master solid professional skills, but also develop comprehensive professional abilities such as teamwork and communication, so as to achieve a smooth transition from campus to the workplace[1].

1.2 Promoting industrial upgrading and transformation

In-depth cooperation between vocational colleges and enterprises can, on the one hand, allow enterprises to integrate

the latest technology and innovative ideas into the teaching process, and help the curriculum system and teaching methods of vocational education continue to innovate; On the other hand, the scientific research achievements and human resources of vocational colleges can also provide technical support and innovation impetus for enterprises, promote the technological upgrading and product optimization of enterprises, thus promoting the adjustment and upgrading of industrial structure, and realizing the benign interaction and collaborative development of education and industry.

1.3 Enhancing the attractiveness of vocational education

With the integration of production and education, students can obtain more internship and employment opportunities, significantly improve their employment competitiveness, and thus achieve better and more ideal employment goals. This process has played a significant role. On the one hand, it has promoted the recognition of vocational education in society, and on the other hand, it has successfully attracted a large number of outstanding students to join vocational colleges, providing a solid impetus for the long-term development of vocational education and ensuring its continuous development.

2. The current challenges faced by the integration of production and education in vocational education

2.1 Policy implementation is not in place

Although the state has formulated many policies and regulations to promote the integration of industry and education, in the specific implementation links, it is still difficult to effectively implement policies, and relevant supporting measures are not perfect. For example, the incentive policies such as tax incentives and financial subsidies for enterprises to participate in the integration of industry and education, due to the lack of clear and clear operating rules, make enterprises face many uncertainties in the actual operation, and then affect the enthusiasm of enterprises to participate.

2.2 Insufficient depth of school-enterprise cooperation

At present, most of the school-enterprise cooperation only stays in the student internship, enterprise lectures and other shallow level cooperation, lack of deep collaborative education mechanism. In the key links such as curriculum development, textbook compilation and personnel training plan formulation, the participation of enterprises is low, which can not give full play to the main role of enterprises in vocational education.

2.3 The vocational colleges themselves lack of ability

On the one hand, the teaching staff of some vocational colleges is insufficient in terms of practical ability, lacking a sufficient number of "double-qualified" teachers, that is, teachers with both solid theoretical knowledge and rich practical experience. From another perspective, the existing teaching facilities and training conditions of the school can not keep up with the demand, which is quite obsolete, which leads to the inability to train high-quality technical and technical talents, and cannot meet the standards expected by enterprises, which brings obstacles to talent output.

2.4 Unreasonable benefit distribution mechanism

In the process of school-enterprise cooperation, due to the different interests of all parties and the lack of a scientific and reasonable interest distribution mechanism, it is easy to cause contradictions and conflicts. For example, when enterprises participate in cooperation, they often spare no effort to invest in human, material and financial resources. However, there is a lack of effective safeguard measures in the field of sharing the achievements of personnel training and intellectual property protection, which are related to vital interests. This situation causes enterprises to beat the drum and worry, and naturally, their initiative to participate in cooperation is weakened, and the continuity of cooperation is also implicated, and it is difficult to push forward in a stable and lasting way.

3. The high-quality development strategy of vocational education based on the integration of production and education

3.1 Improving the policy support system and strengthening the implementation of policies

The government needs to play a stronger leading role in the integration of industry and education, and enhance the implementation and operability of policies by formulating clear implementation rules and operational procedures. At the same time, further clarify the responsibility boundaries of various departments in the integration of industry and education,

improve the supervision and evaluation mechanism of policy implementation, strengthen the dynamic monitoring of the effect of policy implementation, and resolve the problems in the implementation process in a timely manner. In addition, it is necessary for the government to increase its financial assistance, create a special support fund pool, and focus on the landing practice of school-enterprise cooperation, the construction and improvement of training bases, and the growth and forging of "double teacher" teachers, so as to promote the in - depth development of the integration of production and education and inject energy to ensure its efficient promotion[2].

Taking Jinan Vocational College's symbiotic model of "government, school, enterprise and research" as an example, Jinan Vocational College has explored a new ecology of "government, school, enterprise and research" symbiotic and integration of industry and education by relying on the state-level city-wide industry-education consortium. The college has joined hands with the Management Committee of Jinan High-tech Industrial Development Zone and Lingong Heavy Machine Co., Ltd. to build a consortium of intelligent manufacturing and high-end equipment production and education. The government supports the construction of Shandong (Jinan) intelligent simulation public training base, sets up a number of training centers, and promotes the construction of industrial colleges by schools and enterprises, the development of course materials, and the construction of "double-qualified" teacher teams. In this way, the cycle of "industry enabling education, education training talents, and talent supporting industry" is realized.

3.2 Deepening school-enterprise cooperation and building a collaborative education mechanism

Vocational colleges need to build a long-term and stable cooperation model with enterprises, and jointly carry out the formulation of talent training programs, the development of course materials and the construction of training bases, so as to promote the deep integration of the whole chain of talent training with the needs of enterprises. In the course development process, we actively introduce the frontline technical personnel of the enterprise, embed the actual projects and work tasks of the enterprise into the course system, and create characteristic textbooks that meet the professional needs. At the same time, establish a training base jointly built by the school and enterprise, design and management according to the production standards and process flow of the enterprise, and create a real and efficient practical learning environment for students.

The university and enterprise cooperated to build the intelligent manufacturing Industry College, and the two sides carried out in-depth cooperation in personnel training, curriculum development, training base construction and other aspects. In terms of talent training, we have jointly formulated a talent training program, set up a curriculum system according to the needs of enterprise positions, adopted the training mode of "modern apprenticeship", and students learn alternately in schools and enterprises, achieving a close combination of theory and practice. In the course development, the technical staff of the enterprise and the school teachers jointly wrote a series of teaching materials with the actual project cases of the enterprise, so that the teaching content is closer to the actual production of the enterprise. In terms of the construction of the training base, the enterprise has invested in advanced production equipment and built an intelligent manufacturing training center with the school, providing a real productive training environment for students.

Taking Beijing College of Information Vocational Technology: school-enterprise cooperation "dual" education as an example, Beijing College of Information Vocational Technology through in-depth cooperation with enterprises, to explore the "school-enterprise cooperation to promote" dual "education, production and education integration to promote the" four chain "integration" model. The school and the enterprise jointly develop the curriculum system, introduce the actual production process into the classroom, so that students can learn in practice, and enterprises can contact and cultivate talents suitable for their own development in advance.

3.3 Strengthening the construction of "double-qualified" teachers and improving their practical ability

At present, with the vigorous development of vocational education, vocational schools have taken a prominent position in creating a sophisticated "double-qualified" teacher team, and have taken many effective measures. At the level of teacher training, the school will select a certain number of teachers to go to the frontline of enterprises in a planned way every year. During this period, the teachers involved in the enterprise's technology research and development and various

production projects in an all-round and deep way, personally experienced the whole process from design blueprint to product landing, and then accumulated a lot of valuable experience from practice, to realize the seamless connection between theory and practical operation. To expand the dimension of teachers, the school takes the initiative to actively recruit talents for enterprises, introduce skilled backbone elites into the campus, hire part-time teachers, and inject fresh force into the teaching team. Considering that although they have rich practical experience, they may have insufficient teaching experience, the school has tailor-made systematic training on teaching methods and educational theoretical knowledge for them to help them quickly adapt to the platform and complete the role transformation. Through the above internal and external repair of a series of solid measures, remarkable results. The proportion of "double-qualified" teachers in schools has increased significantly, and the overall quality of teachers has ushered in a leap. Whether it is the control of classroom teaching or the guidance of practical operation, teachers are becoming more and more handy, and their teaching ability and practical ability have both reached a new level[3].

Taking Meishan Vocational and Technical College: building "three full infiltration, three dimensional empowerment, three line practice" model as an example, Meishan Vocational and Technical College has built a teacher team construction system of "three full infiltration, three dimensional empowerment, three line practice" to carry forward the spirit of educators as the core, and formed a three-step model of "infiltrating feelings, empowering wisdom, and practicing performance". Through hierarchical and classified training, the school optimizes the growth path of "double-qualified" teachers, builds a "school-province-national" famous teacher (master) studio, sets up a school-enterprise mixed team, and promotes the collaborative development of the teacher team in teaching research, skills competition, and technical services.

3.4 Promoting the construction of practical training bases and building a practice platform for the integration of production and education

In order to improve the practical teaching level of vocational education, it is necessary to further strengthen the construction of practical training base. On the one hand, increase capital investment, introduce cutting-edge production equipment and technology, and create a comprehensive training base that integrates teaching, practical training, scientific research and production functions. The value of this kind of training base is immeasurable. On the one hand, it serves as a real simulation of the "industrial small world" to build a practice platform for students that is almost identical to the real production environment, so that students can connect with the workplace in advance on campus and accumulate practical operating experience; On the other hand, for enterprises, it can become an "incubation park" for technology research and development and a "charging station" for staff training to meet the needs of enterprises in terms of technological breakthroughs and talent advancement, so that the resources between enterprises and schools can be fully disseminated and a win-win situation can be achieved.

At the same time, vocational colleges should take the initiative to work with enterprises to move towards the road of deep integration and work together to build off-campus internship and training bases. This means that students will have more opportunities to go out of the campus and go to the front line of the industry, personally perceive the dynamics and needs of the forefront of the industry, and let the knowledge take root in the real scene. Under the careful carving of both schools and enterprises, the functional boundary of the training base continues to expand, and it is no longer limited to serving students' practical learning, but also promoted to the strategic highland of enterprise technology iteration and talent continuous training, and continues to empower industrial development. Not only that, keep up with the pace of The Times, with the help of modern information technology, virtual simulation training base came into being. Through these measures, the training base will become an important link for the deep integration of vocational education and industry, provide solid support for training high-quality technical skills talents, promote the high-quality development of vocational education, and better serve the needs of economic and social development.

Taking Changshu Modern Industrial Skills Training Center as an example, Changshu Modern Industrial Skills Training Center has established a close relationship of integration of industry and education through cooperation with more than 160 enterprises such as Lichun Precision and Hikvision. The training center provides cutting-edge skills training such as industrial robots and industrial control, and students can directly enter well-known enterprises for internship and

employment after graduation. This model realizes the "effective combination of enterprise workshop and classroom" and promotes the training of highly skilled personnel.

3.5 Establishing a reasonable benefit distribution mechanism to protect the rights and interests of all parties

In the process of promoting the integration of industry and education, we must take into account the interests of schools and enterprises, and build a scientific interest distribution mechanism. First, it is crucial to accurately define the input-output relationship between enterprises and the process of talent cultivation and technology research and development, so as to effectively protect the legitimate rights and interests of enterprises, so that they have no worries. When enterprises inject key resources such as equipment and technology into cooperation, they can rely on pragmatic measures such as clarifying the ownership of property rights and building a benefit sharing framework to help enterprises gain economic dividends from cooperation, or get suitable talent supplies, so that enterprises can effectively perceive that investment will be rewarded. Second, vocational colleges should also give full play to their expertise in talent reserve and technology research and development, take the initiative to meet the needs of enterprises, and customize high-quality service solutions for them, so as to promote the two sides to work together towards a mutually beneficial and win-win road.

Chongqing Polytechnic: Taking the benefit sharing of the "three-three system" teacher team as an example, Chongqing Vocational and Technical College of Automobile testing and maintenance Technology professional group has built a high-level teacher team construction model of "three integration" (integrated teacher team, teaching training base, teaching management system) and "three Hua" (teaching content modularization, project-based, informatization) through school-enterprise cooperation. The deep integration of school and enterprise forms a community of interests. Teachers get corresponding remuneration in participating in enterprise projects and technical services, and the school distributes teachers' performance according to their contributions.

4. Conclusion

The integration of production and education is the key path to promote the development of vocational education to high quality. In the process of promoting the integration of industry and education, there are still many problems to be solved. At the level of policy implementation, local governments and schools face many institutional obstacles in the implementation process due to the collaboration between multiple departments and unclear policy boundaries. The depth and breadth of school-enterprise cooperation are insufficient, resulting in low participation enthusiasm of enterprises. The profit distribution mechanism is not perfect. In order to break through these bottlenecks, the government, vocational colleges and enterprises need to work together to promote the organic integration of vocational education and industry through optimizing the policy support system, strengthening the in-depth cooperation between schools and enterprises, creating a "double-qualified" teacher team, improving the construction of practical training bases and building a fair benefit distribution mechanism. We will train more high-quality technical and skilled personnel who meet the needs of economic and social development. Only continuous innovation and improvement of the integration model of production and education can inject strong impetus into the high-quality development of vocational education and provide strong support for the economic and social development of the country.

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