# Effectiveness of Vocational Education in Weifang City,China

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**Abstract.** Weifang City is located in the eastern part of Shandong Province, China and is an important industrial city. Weifang City has multiple vocational education institutions. Many vocational colleges rank high in China. These colleges typically provide vocational skills training in various fields, including manufacturing, automotive maintenance, mechanical processing, electronic technology, hotel management, and nursing. The necessity of studying Weifang vocational education involves meeting market demand, improving labor quality, promoting innovation and entrepreneurship, and promoting social stability. As a provincial and municipal demonstration zone for the innovative development of vocational education in Shandong Province, it is also a representative of Shandong vocational education. Therefore, the main research object of this article is the vocational education in Weifang City, and Weifang Vocational College is the main development battlefield of Weifang Vocational Education. This article conducts research on vocational education issues, collects relevant data on vocational education, analyzes the problems existing in vocational education, and provides feasible opinion support for the development of vocational education. The significance of studying Weifang vocational education lies in a deep understanding of the current situation, problems, and development trends of vocational education in the region, providing useful references for improving and optimizing the vocational education system and enhancing the quality of talent cultivation. Promoting the matching of talent cultivation and employment needs, solving the problem of talent shortage, promoting industrial upgrading and innovative development, and improving the professional quality and quality of life of residents are of great significance. Vocational education requires the cooperation of the government, educational institutions, industry, and research institutions to jointly promote the development and optimization of vocational education.

**Keywords:** Vocational education Question Validity Develop

## 1. Introduction

In the past few decades, China has carried out a series of educational reforms, including reforms in the field of vocational education. These reforms involve laws and regulations, policy documents, educational institutions, courses, and teaching methods in vocational education. However, the status of vocational education in China has always been low. In China's education system, vocational education has long received much less attention than general education and is considered a non optimal choice. This leads to a relative shortage of vocational education resources, low quality teachers, and insufficient recognition of vocational education by students and parents. Therefore, it is imperative to study the issue of vocational education in China.

A study by Zhang Zhiqiang, Vice President of Heilongjiang Academy of Education Sciences, shows that vocational colleges lack the ability to adapt to the needs of industry enterprises, and the professional settings, training methods, curriculum settings, and teaching processes of vocational colleges do not match the needs of enterprises. The institutional mechanism for jointly cultivating talents between schools and enterprises has not yet been formed. The cooperation ability of vocational colleges is weak, the product research and development ability and technical service ability are weak, and they lack attractiveness to cooperative enterprises. [1]

Focusing on studying the vocational education systems, policies, and practices of other countries and regions, drawing on international experience, can provide reference for the reform and development of vocational education in China. Chinese vocational education researcher Wang Rui stated in his book "The Models, Experiences, and Implications for Vocational Skills Training in the United States, Germany, and Japan" that the US government has attached importance to vocational skills training since the industrial structure adjustment in 1960. By constructing a comprehensive

vocational skills training system, the skill level and overall quality of workers have been improved, effectively meeting the needs of industrial development. In the 1960s, Germany's large-scale vocational skills training enabled unemployed employees to drive the development of its manufacturing industry. In the 1980s, Japan faced enormous employment pressure and achieved steady economic growth by vigorously carrying out vocational skills training, reducing unemployment rates. [2]

In order to better develop vocational education, China has formulated a series of measures and introduced many systems, which help promote the development of vocational education in China.

In January 2019, the State Council of China released the "Implementation Plan for National Vocational Education Reform", which clearly stated that "vocational education and general education are two different types of education that are equally important." This plan determines the status of vocational education.

In April 2019, the Ministry of Education and the Ministry of Finance issued the "Opinions on the Implementation of the Plan for the Construction of High Level Vocational Schools and Majors with Chinese Characteristics", officially launching the implementation of the "Plan for the Construction of High Level Vocational Schools and Majors with Chinese Characteristics" (hereinafter referred to as the "Double High Plan").

In May 2020, Premier Li Keqiang of the State Council, on behalf of the State Council, proposed in the government work report submitted to the Third Session of the 13th National People's Congress that "funding should be provided to stabilize positions through training. This year and next, more than 35 million people will receive vocational skills training, and 2 million people will enter higher vocational colleges, so that more workers can master skills and obtain good employment opportunities.

These positions, recognition, and expectations for vocational education have reached unprecedented heights. How to develop vocational education in China has become an urgent national problem to be solved.

This study can provide decision-makers and government agencies with important information about the current situation, problems, and development directions of vocational education. They can use research results to formulate and optimize policies and plans related to vocational education, in order to promote the development and improvement of vocational education.

At the same time, this study also has important implications for educational managers and decision-makers. The research results can help them understand the current situation, trends, and problems of vocational education, guide the management and decision-making of schools and educational institutions, optimize resource allocation, improve teaching methods and curriculum settings, and improve the quality and effectiveness of vocational education.

Education practitioners and teachers can learn about the latest educational theories, teaching methods, and curriculum design through this study, continuously improve their educational and teaching abilities, and provide students with higher quality vocational education services.

Research can guide students to make wise career planning and learning decisions. At the same time, research can also promote the improvement of education quality, provide educational content and training objectives that are more suitable for practical career needs, and improve students' employment competitiveness.

This study can help enterprises and employers understand talent recruitment and training, provide reference, promote cooperation with educational institutions, and establish a good talent supply chain.

## 2. Theoretical Framework

Core Competency Theory

It was proposed by Gary Hamel and C.K. Prahalad of Harvard Business School in the 1980s. Core competitiveness refers to the unique and difficult to imitate skills, knowledge, and resources possessed in a specific field. We should focus on cultivating and developing these core competencies

to gain long-term competitive advantages.

If China's vocational education wants to make greater contributions to the country's development, it means standing in a more prominent position in education. Applying the theory to analyze and explore the theory and practice of vocational education development can accelerate vocational education's understanding of its own shortcomings, make comprehensive development plans, improve the vocational education system, and promote the modernization process of vocational education.

Collaborative Innovation Theory

Synergy theory and synergetics were proposed and founded by German physicist Haken in 1971. He believed that collaboration is a specific mechanism and common law that causes a system to transition from disorder to order, from low to high, and from order to chaos through nonlinear interactions between each subsystem within an open system.

There are various factors in the development of things, and vocational education is also the same. In order to achieve efficient development of vocational education, it is necessary to coordinate various factors. The theory of collaborative innovation helps to promote the research on the development of vocational education in this article. How the government, schools, enterprises, and society coordinate and promote the development of vocational education requires the application of the theory of collaborative innovation.

## 3. Methodology

This study will use quantitative methods to evaluate the effectiveness level of vocational education in Weifang City. The research subjects are vocational education teachers and students in Weifang City. These teachers and students come from Weifang Vocational College in Shandong Province, China. The total number of people will be used to obtain respondents.

Weifang Vocational College currently has 1100 teachers and over 20000 students, making it the largest number of local vocational colleges. Three secondary colleges were selected for data analysis in this sampling. The three secondary colleges are the College of Agriculture and Forestry Technology, the College of Business Administration, and the College of Culture and Creativity.

The key information providers will be teachers and students with experience in vocational education. The above teachers refer to teachers who have been engaged in educational work for more than 10 years. These teachers require higher professional titles than lecturers. Students must be in second grade or above. The questionnaire survey is conducted at a ratio of 10% for each unit.

**Table 1.** Number of Respondents

| Group | Total Population | Sampling |
|---|---|---|
| **Teachers from the College of Agriculture and Forestry Technology** | 66 | 7 |
| **Students from the College of Agriculture and Forestry Technology** | 1600 | 160 |
| **Teachers from The College of Business Management** | 95 | 10 |
| **Students from The College of Business Management** | 3000 | 300 |
| **Teachers from the College of Culture and Creativity** | 103 | 10 |
| **Students from the College of Culture and Creativity** | 4400 | 440 |
| **Total** | 9264 | 927 |

Researchers will use questionnaires to collect data from respondents and key informants in this study. The survey questionnaire will include industry connections, learning facilities, teacher training,

skill development, and employability.

The survey questionnaire for this article was designed by the researcher based on the needs of the article. These tools will be validated by research experts/consultants and team members of the project.

After completing the survey questionnaire, the consultant and team members will first review the form and content. Then, submit to the department heads of different colleges for approval and management permission. Distribute the questionnaire after confirming permissions.

The distribution of questionnaires is conducted in the form of online or paper questionnaires for respondents to fill out.

## 4. Conclusion analysis

Through the survey questionnaire, we found that the following four issues are more prominent in vocational education.

Like most vocational schools, in Weifang's vocational education, the level of cooperation between enterprises and schools is relatively shallow, with insufficient industrial linkage and motivation for enterprises to participate in vocational education. In the UK and Germany, vocational education enterprises can enjoy tax exemptions or direct economic rewards. However, in China, there is still insufficient performance in this regard, and enterprises still meet their own low-level labor needs. On the other hand, the focus of enterprises is that the talent training cycle of vocational education takes three years, which is too long to meet the short-term employment needs. [3]

With the increasingly widespread application of virtual reality technology in the field of vocational training and teaching, this technology also presents certain limitations: in addition to insufficient professional coverage, virtual training and teaching require a large amount of capital investment, and course resources are mostly purchased from enterprises at high prices. Customized course resources are more expensive. On the other hand, the level of virtual training teachers is not high. Although virtual reality technology has been applied to vocational education training teaching, the operational level of teachers has become a difficulty in virtual training during the teaching process.

Currently, vocational schools generally require a bachelor's degree or above in teacher assessment and recruitment. Some schools may consider relaxing the degree to associate's degree for applicants who have achieved excellent results in relevant majors. However, it still leads to a lack of experienced experts and talents from the front line of enterprises among the teachers recruited by the school. Some even do not delve deeply into the frontline learning of the enterprise, do not understand the current situation of the enterprise, and do not have a comprehensive grasp of new processes, materials, and skills in the production process of the enterprise. As a result, some teachers have insufficient control over the teaching content, which affects the quality of teaching. A sufficient number of "double qualified" teachers are the guarantee for the teaching team to play a core role. [4]

As Lv Jing said in a study:Some students, due to their superior family conditions and arrogant isolation, are unwilling to communicate and communicate when guiding cooperative learning in daily life, unable to recognize the importance of cooperation, and do not respect the ideas of others.[5]Universities attach great importance to cultivating students' independent abilities, such as independent living ability, independent thinking ability, and independent learning ability. However, the cultivation of cooperative ability is also crucial, and it is also very important for students to develop good cooperative ability. Some vocational college students interact independently in their daily lives, do not communicate with other students, do not face society, do not participate in public welfare practice activities, and immerse themselves in a virtual world. Whether it's daily dormitory life or class learning, we are all alone, without cooperation or communication, which is not conducive to the physical and mental health development of students.

## 5. Research suggestions

Fully leverage the leadership role of the government and establish a macro oriented platform through macroeconomic regulation. The macro oriented platform mainly plays the leading role of the government, achieving management, supervision, and regulation functions at the "top" through joint coordination agencies of relevant government departments.[6] Continuously improve the external regulatory role through government supervision. On the one hand, the government should strengthen the management of policy guidance, funding guarantee, legal supervision, statistical evaluation, and other aspects, and guide local education authorities and vocational colleges to follow the principle of "supporting the superior and strengthening the classification and implementation of policies", based on regional and professional characteristics, to provide more policy support and funding investment to colleges with potential and advantages, and improve the quality of school enterprise cooperation. [7]

Virtual training teaching, as an emerging teaching method, schools and enterprises have established a virtual training teaching guidance committee, which is composed of professional teachers in virtual reality technology application, digital media technology, computer application technology, and other related fields, as well as industry experts from enterprises, to participate in the research and development of virtual training teacher construction plans. Multi channel construction of virtual training resources, with the school taking digital media technology, animation production technology, and virtual reality technology applications as core industries to promote the construction of virtual training resources. Introduce enterprise projects as practical links, gradually improving the professional and technical level of teachers and students, and making the development of virtual training resources feasible. [8]

Improve the mechanism for introducing teachers and broaden channels for talent introduction. Introduce corresponding talent introduction policies, open up channels for the introduction of outstanding talents, and give appropriate preferential treatment to personnel who meet special talent standards in basic conditions. Deepen school enterprise cooperation, strengthen communication with outstanding talents from enterprises, and utilize school enterprise cooperation to "go out and invite in". Assign school teachers to carry out practical exchange and learning in enterprises, understand the latest developments in relevant majors, and enhance their practical abilities. Deeply cooperate with industrial enterprises in teacher training, practical training space construction, curriculum construction, practical teaching, technology research and development, and achievement transformation, enabling teachers to conduct application technology research and development in local industrial enterprises, providing assistance for enterprise technology upgrading and product development. [9]

In course design, in addition to introducing the basic knowledge of team building, teachers can use teaching methods such as case teaching, group activity teaching, and task driven teaching to effectively train students' sense of teamwork. Participating in the organization and management of club activities not only enhances students' collective awareness, but also enables them to develop a healthy lifestyle through mutual communication and exchange, continuously exercising and cultivating their skills. [10]

## 6. Conclusion

The development of vocational education is crucial for the sustainable development of society and economy. In order to better develop vocational education, the following aspects can be optimized. Closely integrate with the industry to ensure that vocational education courses are closely matched with actual industry needs, in order to cultivate students who adapt to the real work environment. Establish sustained industrial partnerships and involve enterprises in course design, internships, and practical training. Integrate modern educational technologies such as virtual reality and augmented reality to enhance teaching effectiveness. Improving the overall quality of teachers and mastering diverse teaching methods can better meet the needs of students. Attracting professionals with practical

industry experience to join the teaching team, providing practical cases and guidance. Provide continuous education and training to help teachers maintain professional competence and teaching skills. Introduce career planning counseling courses to help students understand career development paths and market demands. To promote policy support, the government should provide support and investment to ensure that vocational education receives sufficient resources and development opportunities. Encourage enterprises to participate in vocational education cooperation and provide funding, equipment, and mentor support. Enhance the social status of vocational education and eliminate stereotypes about vocational education. Promote successful vocational education cases and showcase students' achievements in the professional field. Drawing on international best practices, promoting international cooperation and exchange, and improving education levels. Cultivate students' international perspective and adapt to the globalized workplace environment.

Taking these suggestions into account comprehensively can promote the development of vocational education, enhance students' employment competitiveness and social contribution. This requires the joint cooperation of the government, educational institutions, enterprises, and various sectors of society to work together to create a more effective vocational education system.

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