

Vocational education going global to promote new quality productivity in the global context and countermeasures

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Abstract: In the tide of global economic integration, the demand for vocational education is experiencing unprecedented growth. According to a report by the International Labour Organization, by 2030, the world will see an increase of over 600 million jobs, most of which will require specific vocational skills. With the deepening implementation of the Belt and Road Initiative, more vocational schools and enterprises are turning their attention overseas, exploring new paths for the internationalization of vocational education. In the era of globalization, the internationalization of vocational education is not only an inevitable requirement for improving educational quality but also a significant way to promote economic and social development. The expansion of vocational education abroad requires strengthening educational advocacy, from the internationalization of manufacturing to the globalization of the service industry, and from the expansion of product trade to the output of technological innovation. Chinese enterprises are increasingly prominent in the global industrial chain, value chain, and innovation chain. This trend not only provides enormous market potential for the expansion of vocational education but also poses higher demands on its educational quality and adaptability. Vocational education plays a crucial role in cultivating innovative talents. Through close cooperation with the industry, vocational education can quickly adapt to market dynamics and cultivate highly skilled labor that can adapt to new technologies, emerging industries, and new business models, promoting the development of new productive forces globally.

1. Introduction

In the context of globalization, the demand for vocational education is increasingly diverse and international. In the process of internationalizing vocational education, governments and educational institutions around the world have adopted various measures to adapt to the ever-changing market demands. Australia's vocational education system, through TAFE (Technical and Further Education) colleges, offers a wide range of vocational training courses. These courses not only cover traditional industries but also keep pace with the development trends of emerging industries, such as renewable energy and sustainable development. TAFE colleges work closely with businesses to ensure that the course content remains consistent with actual job requirements, thereby enhancing the employability of students. For example, in Asia, Japan's vocational education is also representative. Japan's vocational schools focus on cultivating students' professional skills and practical abilities, with

flexible and diverse course offerings covering multiple fields from traditional crafts to modern information technology. The cooperation between vocational schools and businesses is also very close, giving students the opportunity to participate in corporate projects during their school years, thereby accumulating valuable work experience to meet the diverse needs of the market.

In summary, driven by globalization and technological advancements, vocational education is moving towards greater diversification, internationalization, and higher quality. The cooperation between governments, educational institutions, and businesses will continue to strengthen, jointly cultivating high-quality skilled talents to meet future market demands[1].

In the 20th National Congress report, it was pointed out that "education, science and technology, talent are the foundational and strategic support for the comprehensive construction of a modern socialist country" [2]. Mei Xiongjie points out that the integration of industry and education is key to the high-quality development of vocational education and an important carrier of the vocational education system [3]. Shen Xia suggests that the government should encourage the "going global" of vocational education and provide it with financial and policy support. Vocational education should promote the exchange and mutual learning of Chinese and foreign excellent cultures through Sino-foreign cooperation, achieving cultural integration and coexistence, and enhancing cultural identity and understanding [4]. I believe that at the same time, attention should also be paid to the sustainable development of vocational education, focusing on long-term benefits.

2. Comparative Study on Vocational Education in Different Countries and Regions

In the context of current globalization, international comparative studies on vocational education reveal significant differences among countries in cultivating new quality productive forces. Taking Vietnam in Southeast Asia as an example, although its vocational education started relatively late, the government has actively introduced international vocational education resources and models in recent years, promoting the rapid development of vocational education. The Vietnamese government has collaborated with countries such as Germany and Japan to introduce advanced vocational education courses and teaching methods, significantly improving the skill level of the workforce. According to the report of the Vietnamese Ministry of Labor, Invalids, and Social Affairs, the employment rate of vocational education graduates exceeds 90%, providing strong support for the rapid growth of Vietnam's economy. The establishment of the Vietnam-Banmo Academy not only meets market demands but also offers international learning and employment opportunities for Vietnamese students, cultivating localized skilled talents who both master technology and are proficient in Chinese. Moreover, in the process of development, new educational models have been innovated, greatly promoting the internationalization of its vocational education. They have adopted a 1+1+1 international cooperation model, jointly established by Shandong Jiaotong Vocational College, Goertek Technology (Vietnam) Co., Ltd., and Vietnam's Le Thanh Tong College. In the first year, students study professional basics and Chinese at Vietnam's Le Thanh Tong College. In the second year, they transfer to Shandong Jiaotong Vocational College to delve into professional knowledge and skills, while also improving their Chinese language proficiency and understanding of Chinese culture. In the third year, they intern at Goertek Technology (Vietnam) Co., Ltd., combining theoretical knowledge with practice to enhance their operational skills and professional quality. This cooperative model not only effectively spreads the experience of Chinese vocational education but also promotes cultural exchange and educational cooperation between China and Vietnam, increasing students' employment rates and the satisfaction of enterprises. The Ministry of Education of Vietnam reports that students trained under this model have an employment rate over 20% higher than those trained under traditional models, demonstrating the significant potential of internationalized vocational education in driving new quality productivity. Currently, China has developed a number of

"vocational education going global" brands, such as "Lu Ban Workshop," "Silk Road Academy," "Zheng He Academy," "Bi Sheng Workshop," and "Da Yu Academy." These collective efforts to "go global" have injected new vitality into the development of new quality productivity. In comparative studies, we can also learn from the American community college model. This flexible and diverse form of education provides a variety of learning paths for students from different backgrounds. The curriculum focuses on aligning with local industry needs, maintaining close ties with businesses, chambers of commerce, labor and employment departments, and understanding community needs to provide students with appropriate education and training. The education process emphasizes the cultivation of practical skills and collaborates with businesses to offer internships and practical training opportunities, helping students gain work experience and serve local residents and economic development[5]. This ensures the practicality and forward-thinking nature of the education content while promoting over 40% of American college students to receive education, with many students entering the labor market directly after community college training. An analysis of the employment rates of secondary vocational education graduates aged 15-19 in Western countries from 2014 to 2022 found that in the past decade, the employment rates of this age group have increased in most countries. In 2022, the average employment rate in the 27 countries of Europe was 32.65%, an increase of 0.65% compared to 2014's 32%[6]. The success stories of these countries and regions demonstrate that international comparative studies of vocational education not only help us understand the advantages and limitations of different educational models but also provide valuable references for the internationalization of vocational education. Through transnational cooperation and exchange, we can learn from the successful experiences of various countries and, in light of our own national conditions, promote the global strategy and practice of vocational education, thereby driving the development of new productive forces on a global scale.

3. The impact of vocational education on new quality productivity

3.1. Vocational education goes global to improve the quality of the workforce

In the context of globalization, the internationalization of vocational education, or the export of vocational education, is an important strategy to promote the development of productivity. It facilitates the global dissemination of knowledge and skills through transnational cooperation and exchange, and enhances the quality of the workforce. The German dual system of vocational education has been successfully implemented in many countries, effectively improving the professional skills and productivity of workers. According to data from the International Labour Organization, the employment rate of workers who have received vocational education is 10% to 15% higher than those who have not received training. The export of vocational education introduces advanced educational concepts and practices, providing a viable path for developing countries to improve the quality of their workforce, and playing a key role in promoting industrial upgrading and economic growth. The success of vocational education export lies not only in the introduction of its educational model but also in its adaptability and innovativeness. Countries, while drawing on advanced foreign vocational education experiences, also carry out localized reforms and innovations based on their national conditions, making them more suitable for the needs of their own economic and social development. This process of "importing-digesting-assimilating-reinventing" not only promotes the continuous improvement of the vocational education system but also facilitates the optimal allocation and sharing of educational resources between nations[7].

3.2. Vocational Education Goes Global to Promote Industrial Upgrading

Against the backdrop of globalization, the internationalization of vocational education, or the

export of vocational education, has become an important strategy for promoting the development of new quality productive forces. Through transnational cooperation and exchange, the export of vocational education not only facilitates the global dissemination of knowledge and skills but also plays a key role in promoting industrial upgrading. By introducing advanced educational concepts and practices, the export of vocational education helps to improve the quality of the workforce in the receiving countries, thereby driving the optimization and upgrading of industrial structures. Optimizing the layout of vocational education majors and improving the match between the setting of vocational education majors and market demand can cultivate more high-quality technical and skilled talents, skilled workers, and master craftsmen. In addition, the export of vocational education can also promote technology transfer and innovation, injecting new vitality into industrial upgrading. National and local governments provide policy support and incentives, such as financial, fiscal, land, and credit policies, to promote the development of enterprises that integrate industry with education. The "Action Plan for Empowering Vocational Education through Integration of Industry and Education (2023—2025)" proposes 19 policy measures across 5 aspects to accelerate the formation of a development pattern where education and industry are integrated and interact positively. Through close cooperation with enterprises, integration of industry and education understands international market demands, jointly develops courses and teaching resources, and enhances the quality of education and international competitiveness. For instance, Jilin Province is promoting the transformation of traditional industries towards high-tech, green environmental protection, and service sectors, with vocational education adjusting its majors to train skilled talents that meet the needs of emerging industries. Encouraging enterprises to participate in the operation of vocational education, providing internship and practical training opportunities, and helping students improve their practical skills, reducing the secondary training Section for enterprises. Through these strategies, the "going global" of vocational education can effectively promote industrial upgrading, provide talent support and cultural integration for enterprises "going global", and also provide a practical platform and experience accumulation for the international development of vocational education.

4. Challenges and Countermeasures Faced by Vocational Education Going Global

4.1. Cultural Differences and Adaptability Issues

In the process of internationalizing vocational education, numerous challenges and opportunities coexist. On one hand, significant differences exist among countries in the fields of culture, education, and economy. How to advance the internationalization of vocational education while also taking into account local characteristics and needs has become an urgent issue to be addressed. Against the backdrop of globalization, the implementation of an internationalization strategy for vocational education inevitably faces issues of cultural differences and adaptability. Cultural differences are not only reflected in language, religion, and values but also profoundly affect the teaching methods, curriculum content, and evaluation systems of vocational education. For example, research on Sino-German vocational education cooperation indicates that when Germany's "dual system" model of vocational education was introduced to China, it faced many challenges during implementation due to differences in cultural backgrounds and industrial foundations between the two countries. Chinese students are accustomed to theoretical learning, while the German model emphasizes practical operations. This requires adjustments to the curriculum design to adapt to learning needs under different cultural backgrounds. In terms of adaptability, internationalization of vocational education also needs to consider how to localize educational content and methods in different countries and regions. For example, when vocational education is internationalized in Southeast Asian countries, it is necessary to take into account the characteristics of the local labor market as well as the needs and the acceptance level of the education system. Through cooperation with local educational institutions,

it is possible to better understand and integrate into the local culture, thereby designing educational programs that are more suitable for the local reality. At the same time, numerous practical cases of international vocational education also indicate that establishing mechanisms for cross-cultural communication and collaboration can effectively alleviate barriers caused by cultural differences. The practice of international vocational education requires continuous learning and adaptation in action to achieve its ultimate goal of promoting a new quality of productive forces globally.

4.2. Challenges of Policies and Regulations

In the process of vocational education going global, in addition to cultural differences and adaptability issues, one must also face the challenges of policies and regulations. Different countries have varying policy support, funding, and regulatory mechanisms for vocational education, which directly impact the implementation and sustainability of vocational education programs. For example, in some developing countries, the government may prefer to support basic education rather than vocational education, leading to a lack of resources for vocational education, including teachers, equipment, and students. Therefore, the strategy of vocational education going global needs to engage in in-depth communication with local governments to seek support and funding for government policies, while also paying attention to local laws and regulations to ensure the compliance and legality of the projects. With the intensification of economic globalization and international competition, some countries adopt trade protectionism and impose tariffs, leading to a trend of de-globalization and nationalism in different parts of the world. This trend hinders the flow of knowledge and poses serious challenges to the internationalization of vocational education.

4.3. Technology Transfer and Knowledge Sharing

Furthermore, the internationalization of vocational education also needs to focus on the issues of technology transfer and knowledge sharing. The core of vocational education lies in the transmission of skills to students and the cultivation of practical abilities. Therefore, how to effectively transfer advanced vocational education concepts and technology to the target countries is a key factor in the success of vocational education going global. This not only requires vocational education institutions to have strong technical capabilities and rich teaching experience but also necessitates the establishment of a comprehensive training system to ensure that local teachers and trainers can master these skills and ultimately pass them on to students. In practice, successful cases of vocational education going global indicate that cooperating with local enterprises is an effective way to achieve technology transfer and knowledge sharing. By establishing friendly cooperative relationships with local enterprises, vocational education institutions can better understand the needs of enterprises, thereby designing curriculum content that meets market demands. At the same time, enterprises can also provide students with internship and employment opportunities, allowing students to gain rich practical work experience in the learning process, enhancing their competitiveness in the international job market. It is also possible to adopt a combination of online and offline teaching models. For example, online education platforms can facilitate the sharing of educational resources on a global scale, breaking down geographical barriers and allowing more people to access high-quality vocational education resources. Moreover, digital technology can assist vocational education institutions in better data analysis and monitoring of student learning conditions, providing strong support for the improvement of teaching quality.

4.4. Sustainable Development Issues

In the process of vocational education going global, it is also necessary to pay attention to issues

of sustainable development. This includes the long-term benefits of educational projects, as well as contributions to the local society and environmental friendliness. Vocational education institutions should actively fulfill their social responsibilities, establish close ties with the local community, and promote local economic and social development by providing vocational skills training and employment services. Of course, during the implementation of the project, it is necessary to focus on environmental protection and resource conservation, achieving coordinated development of economic, social, and environmental benefits. It also depends on whether institutions and countries can cultivate high-quality skilled talents that meet the international market demand. This requires vocational education institutions and governments to closely monitor international industry development trends and market demand changes, promptly adjust curriculum and teaching content to ensure that the skills students learn match the market demand. At the same time, it is also necessary to strengthen the cultivation of students' international perspective and cross-cultural communication skills, enabling them to have stronger competitiveness and adaptability in the context of globalization.

5. Strategies for vocational education going global

As the internationalization strategy of vocational education progresses, we must focus on the strategy formulation and implementation in several key areas. Firstly, it is crucial to build an international certification and evaluation system. In the context of globalization, internationally recognized professional qualifications and evaluation systems play a decisive role in enhancing the attractiveness and competitiveness of international vocational education projects. By cooperating with international authoritative organizations to jointly develop vocational education certifications and evaluation systems that meet international standards, it helps students better integrate into the international workplace and enhance their global employment competitiveness.

Secondly, strengthening industry-academia-research cooperation is key to promoting the development of vocational education. In the process of internationalizing vocational education, it is important to actively seek cooperation with overseas enterprises, universities, and research institutions to jointly carry out technological development, talent cultivation, and the transformation of research results. Furthermore, the construction of the teaching staff is a crucial link. In the process of internationalization, there is a need for a teaching staff that meets the demands of international education, which includes having an international perspective, cross-cultural communication skills, and the ability to teach in a foreign language. To cultivate talents with international competitiveness, vocational colleges must have a high-quality teaching staff. This team should not only possess the qualification of "Double Masters," but also have an international educational background and teaching experience, be able to guide students with an international perspective and methods, and possess the ability for cross-cultural communication, enabling effective interaction with international individuals. Currently, there is a relative shortage of such teachers. Moreover, there are significant differences in the strength of teachers across different regions. There are also notable differences in the professional quality of teachers and equipment. In addition to the construction of the teaching staff, the localization of teaching materials and resources is also an important aspect. Developing vocational education in different countries and regions requires textbooks and teaching resources that are in line with local culture and actual needs. The development of these resources requires substantial investment and in-depth localization research to better adapt to local culture and needs. Only by truly "going with the local customs" and aligning with the local development can we better promote economic growth. Finally, the internationalization of vocational education also needs to focus on global education governance and cooperation. With the deepening development of globalization, educational. Cooperation and exchanges between countries are becoming increasingly frequent. Vocational education institutions should actively participate in the construction and reform of the

global education governance system, promoting the formation of a more open, inclusive, and equal global education cooperation pattern. At the same time, strengthen cooperation with international organizations, multilateral development banks, and others to jointly promote the development and progress of global vocational education.

6. Conclusion

With the rapid development of technology, especially the widespread use of the internet, artificial intelligence, and big data analysis, internationalization of vocational education is facing unprecedented opportunities and challenges. Technological innovation has not only transformed the teaching methods of vocational education but also reshaped the structure of global vocational education. Therefore, practitioners of international vocational education must also continuously seek educational models that match technological advancements, ensuring that while promoting the development of new quality productivity, they can also guarantee the fairness and quality of education. To address these challenges, it requires the joint collaboration of governments, educational institutions, enterprises, and international organizations to achieve the sustainable development of international vocational education. When discussing the sustainable development path of international vocational education, we should recognize that the internationalization of vocational education is not just an educational phenomenon, but also an economic and cultural one. With the deepening of globalization, international exchanges and cooperation in vocational education are becoming increasingly frequent, which also provides countries with valuable opportunities to improve the quality of their workforce and promote industrial upgrading. The future trend of international vocational education should be integrated with the global sustainable development goals, contributing to the enhancement of global new quality productivity through innovation and reform.

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