The Development of Vocational Education and Training in China

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ABSTRACT
With the deepening of China’s reform and opening-up, more and more professional talents are required to be prepared by Chinese education for meeting the challenges from inside and outside. Vocational education and training is enhanced to the prehistoric status equal to general education, not only getting away from its past subordination to general education in level, but also being promoted as one of two categories of Chinese education, even as national strategy. Through the literature review, in this paper, Chinese vocational education and training is explored in the process of its transformation from quantity to quality, to spotlight its development in the reform of Chinese education.

Keywords: Chinese vocational education and training, Development, Reform, Education levels, Education categories.

1. INTRODUCTION

Before the reform and opening up in China, there is no real concept of vocational education and training. Only two types of schools: secondary specialized schools and workers’ training schools, prepare technicians and workers for the industry of that time. The very beginning of the systematic construction of vocational education and training actually starts in 1985. It is an active response of China to the challenge of globalization. In order to enhance its competitiveness, China has to educate and train more and more junior technicians and workers besides senior science and technical experts. Until the promulgation of the "Vocational Education Law of the People's Republic of China" in 1996, the vocational education system was legalized, proposing three levels of vocational school education: elementary, secondary, and advanced, and that the vocational education system should communicate with general education. This law reformed the structure of secondary education, and initially formed a vocational education system with secondary vocational education as the main body (Jingjing, Liu & He, 2019). In 1999, the secondary vocational and technical system came its own with four types: secondary specialized schools, workers’ training schools, vocational high schools, and secondary specialized schools for adults (Yan, 2013). For some scholars, the construction of vocational education and training seems a failure because of the dramatic decline in the numbers of secondary vocational and technical schools, even one or two types lost in the history. However, its historical role of having played in the past, especially for the development of economy and society cannot be underestimated. On the one hand, at least this type of vocational education and training provides many technical professionals for different industries at that time as well as a great number of cadres in different sectors at different levels of Chinese government, among them, some have been leaders in different departments; on the other hand, in reality, the majority of the present vocational and technical colleges are transformed or upgraded from previous secondary vocational and technical schools. To great extent, it means without the long-time accumulation or foundation of secondary schools a large scale of emergence of vocational and technical colleges cannot be found within very short time span. In addition, up to now, after long-time decline in the number of secondary schools, another type of vocational education and training comes in the form of vocational education.
and training center, spreading all over the country, greatly supported by the local government and the central government of China. This suggests that secondary vocational education and training is the essential part of the whole system of vocational and training in China, not only vocational and technical colleges. At the turn of the century, along with the rapid development of higher vocational education, the vertical linkage of middle and high vocational education within the vocational education system, and the horizontal integration of general education and vocational education have come to take shape. Especially with the implementation of a series of policies by Chinese government, the framework and content of Chinese modern vocational education and training are getting clearer. In 1998, the Action Plan for Education Promotion for the 21st Century proposed that about 3% of graduates from secondary vocational schools could have an access to higher vocational schools, and that graduates from vocational and technical colleges can be allowed to receive higher-level education after passing the national-designed examination. The two types of reforms have greatly promoted the construction of China's modern vocational education system. In 2002, the State Council's "Decision on Vigorously Promoting the Reform and Development of Vocational Education" first formally proposed the term "modern vocational education system", and decided to further the development of secondary vocational education, expand the scale of higher vocational education, and build an overpass of talent growth between the secondary vocational education and higher vocational education as well as between vocational education and general education or adult education(ibid). Along with the promulgation of the "Outline of the National Medium and Long-Term Education Reform and Development Plan (2010-2020)" in 2010 and the "Modern Vocational Education System Construction Plan (2014-2020)", in 2014 further details are clarified on the construction content of China's modern vocational education system and development connotation. In 2015, the "Guideline on leading Some Local Universities to be Transformed into Applied Ones " jointly released by the National Development and Reform Commission, the Ministry of Finance, and the Ministry of Education, put the development of bachelor-level vocational education into reality. The school level of vocational education has been raised higher, and the Systematization of the education and training of technical and skilled talents is gradually being realized. The vertical vocational education system is composed of the training systems with the hierarchy of the secondary vocational education, vocational colleges, applied undergraduate institutions and professional degree graduates. The horizontal vocational education system is connected with general education through the integration of industry and education and the integration of double certificates. So far, the "Chinese system", characteristic with the vertical readiness for working or studying and the horizontal integration of vocational education and general education, has been basically established, and the monorail path of junior college level of vocational education, long-time despised as inferior to general education was fundamentally reversed. Today, China has become the country with the largest vocational education in the world, and the development path of modern vocational education with Chinese characteristics has come to form (Liu & He, 2019). From the description above, one fact can be easily found that the history of Chinese higher vocational education and training is about thirty or forty years. However, just within the very short time, with the relentless efforts by Chinese government, China has made a great lead. In 2014, the number of students in higher vocational education in China exceeded 10 million for the first time, reaching 10.0063 million. The enrollment of higher vocational education reached 3.398 million, accounting for 46.9% of the enrollment of higher education. Among the students, 1.51 million students were enrolled by Vocational Admissions Test, accounting for 45% of the total enrollment plan for higher vocational education. More than 40% of newly-enrolled students in vocational schools came from the pool of secondary vocational graduates, reaching 15.32% of the total students in secondary vocational schools in this year ("Officials pointed out that the number of students in China ’ s higher vocational education exceeded 10 million for the first time," 2015). To great extent, the framework of the real modern vocational education system has been established. For students in the junior middle school, if they do not want to go into normal higher middle school for preparing themselves into future colleges and universities for academic education, they can go to secondary vocational and technical schools for preparing themselves for future professions, and also have the chance to get themselves into vocational institutes or colleges for further study as well as academic colleges and universities for academic education. Meanwhile, students in higher middle schools, after three year’s study, they can make another choice based on their own situation and inner intention, either for professional study in vocational colleges
or for academic study in academic colleges or universities. It means Chinese authority has broken the barriers between vocational education and training and academic education for different students at different levels of education. These lead students into different educational channels for the orientation of their future careers. It means here China has established healthy and completely stereoscopic education system. This mode is called as "3+x". As Xia Xuemin, a visiting researcher at the Institute of Public Policy of Zhejiang University, said, the "3 + X model" has achieved the unification between vocational technical education and higher education. Thanks to the open of the ascending channels, technicians and engineers have no distinction between the high and the low, this move has practical significance” (Xie, 2018). From 2015 to 2017, owing to the decline in the number of the graduates in vocational high middle schools, the number of the enrollment in vocational colleges decreased dramatically. In order to reverse the situation, at the second session of 13th National People’s Congress, the proposal was made by Premier Li Keqiang in the government work report that in 2019 vocational colleges will expand their enrollment by 1million. Fresh higher middle school graduates, ex-soldiers, laid-off workers, and immigrant workers are encouraged to attend the enrollment test (Iimedia, 2019).

2. THE REFORM OF CHINESE VOCATIONAL EDUCATION AND TRAINING IN CHINA FROM QUANTITY TO QUALITY

Up to 2018, the number of Chinese vocational colleges (associate) amounts to 1418. In fact, so far, besides the quantity accumulation, Chinese modern vocational education and training has been into the primary mature with clear professional orientation and systematic structure. The structure is a type of the integration of secondary vocational education and training and higher vocational education and training. It can be shown as the following chart ("Figure 1").

![Figure 1 The Present Classifications of Chinese Academic Vocational Education and Training.](image)

Though, the chart above delineates a skeleton of Chinese vocational education and training. It differs greatly from that in other countries, especially western countries. For example, in west countries, there is no concept of higher vocational education but in China, it is often called as the opposite part of higher education oriented on academic development of talents. But the two parts are not equal to each other with higher vocational education at the bottom and higher education at the top. The difference arises from Chinese long-time tradition with the greater respect on academic education, with the less on vocational education. In this tradition, only student who they have no academic competence choose to get vocational education and training. "The value that "skills are respected and labor is noble" has not been inculcated" (Yan, 2013). Of course, the prejudice towards vocational education is the very representation of Chinese long-time tradition that to be a scholar can make one be at the top of society, popular in the Chinese past feudal history. At that time scholars are given great respect while craftsmen are despised very much. Up to now, the feudal residual is still left in the minds of some people, especially students and their parents involved. However, in today’s Chinese society all people are equal no matter where they are born and whether they are educated or not educated. Being educated as science experts and being educated as technicians or workers are of no difference. The only difference lies in the different career choice
made by people. This is special true with the promulgation of the "National Vocational Education Reform Implementation Plan" at the beginning of 2019. Vocational education and general education are two different types of education and have equal importance (State Council, 2019), making vocational education rising from the long-term "level" education to the same status as general education at the national level. Vocational education has begun to shoulder the important responsibility of solving social problems and supporting industrial development (Zhang, 2019). In order to safeguard the implementation of this plan and the legislative status of vocational education, Ministry of Education gets to revise "the Vocational Education Law of the People's Republic of China ". In the revision Draft of the law, vocational higher education schools are intentionally used to replace higher vocational schools. This is not the name change, but the change in nature. For a long time, the orientation of China’s vocational education is unclear, especially higher vocational education is only the follower of the general education. It makes vocational "associate students" being regarded as inferior to the "undergraduates" of general education by the society. The replacing "higher vocational school" with "vocational higher education school" intends to mean vocational higher education will stand as equal to the ordinary higher education. In the future, students receiving vocational higher education will not stop in associate degree, they can further study and get bachelor degree and master degree (Contestant, 2019). This is a great breakthrough in the relations between vocational education and general education, especially between vocational higher education and higher education. On the one hand, this represents the building of legislative status of vocational education; on the other hand, this means since then, vocational education can seek to explore its own theoretical framework or system and practical route instead of the past copy of higher education.

In fact, Chinese government never stops the exploration for its own route to vocational education. On October 31, 2006, the Ministry of Education and the Ministry of Finance promulgated the "Opinions on the Implementation of the National Model Higher Vocational College Construction Project to Accelerate the Reform and Development of Higher Vocational Education", emphasizing on supporting the construction of 100 national model higher vocational colleges. The construction project is an important strategic measure to speed up the reform and development of higher vocational education. On June 1, 2010, the Ministry of Education and the Ministry of Finance issued the "Notice on Further Promoting the Implementation of the" National Model Higher Vocational College Construction Project "", adding about 100 new vocational colleges to push forward the construction of key schools. "On October 19, 2015, the Ministry of Education's" Higher Vocational Education Innovation Development Action Project (2015-2018) "proposed the construction of 200 high-quality vocational colleges. Three years later, on January 31, 2018, the Ministry of Education in its "Work Points for 2018" proposed launching "the Construction Project of High-level Higher Vocational Schools and Disciplines with Chinese characteristics" (Yang, 2019). This is the representation of a type of education compared with its former identity of level education. It is the practical representation of "the equal importance of Vocational education and general education" dictated by "National Vocational Education Reform Implementation Plan". The "two high projects" makes vocational education have the chance to construct its own "Double First-class with which higher education replace the past "211 Project" and "985 Project" to push forward the development of its quality. It means vocational education can be really equal to higher education in governmental funds and policies. It also raises the image of vocational education in people's minds, attracting more and more excellent students into vocational education channel to educate them as great technical experts and workers. It means the "two high projects" aims to focus on constructing a group of vocational schools and discipline groups that lead reforms, support development, are of Chinese characteristics and world-class level, and promote the continuous deepening of vocational education reforms (MoE, 2019c). So far, Chinese vocational higher education has developed its own systematic framework: at the national level, national model vocational colleges, national key vocational colleges, national high-quality vocational colleges, and the "two double projects" colleges; at the provincial or municipal level, provincial or municipal vocational colleges, provincial or municipal key vocational colleges, provincial or municipal high-quality vocational
colleges, possible or expected provincial or municipal "two double projects". In the framework, the model colleges center on the innovation of the educating mode of talents with work and study combined, and the key colleges focus on bettering the system and mechanism of school-enterprise cooperation. High-quality colleges concentrate on the deepening of integration between industry and education, and cooperation between enterprises and colleges, and through supporting the excellent and the strong, first make the breakthrough, then lead the overall construction mode by example, and drive the overall construction mode, accelerating the pace of vocational education reform (MoE, 2019b). In the end of October, in 2019, 197 vocational colleges enter the list of the construction institutions of the "double high projects". This declares the real independence of vocational higher education and also signifying the very beginning of the exploration of its characteristic developing path (MoE, 2019a).

The description above is the details of the development of Chinese vocational education in the past decades. However, this does not only shows the representation of its linear and horizontal development and the reform of the vocational education, this also shows the greater efforts made by Chinese authority. It means that the development of vocational education has been attached the greatest priority to the development of national economy and society, not only limited to a single educational type. It matters with people’s right for education and training, especially for their happiness. In October 2005, the State Council issued the "Decision on Vigorously Developing Vocational Education", proposing the establishment of a student assistance system in vocational education for poor families. The central and local finances should arrange funds to support children from poor rural families and low-income families in cities and towns for receiving secondary vocational education. In 2009, the Ministry of Education and other four ministries and commissions issued the "Working Opinions on the Tuition Exemption for Students from Rural Families in Secondary Vocational Schools and Students Majoring in Agriculture". Thus students from countryside are gradually exempted from tuition fees. In 2010, 2012 and 2015, the coverage of tuition exemption was expanded three times. At present, more than 90% of students in secondary vocational schools enjoy tuition exemption (Donglu, 2019). This is the representation of education equality in vocational education. For education equality, when he visited the Peili School of Shandan in Zhangye City in Gansu Province, General Secretary Xi Jinping emphasized that though there exists a certain difference in developing conditions in different areas, there is no difference in the equality of education opportunity and the key way to solve this problem lies in education, especially vocational education (Xinhua, 2019). It is the full use of the advantages of higher vocational education for the general public and the advantages of cultivating talents for lifting people out of poverty and getting them rich, so that children in remote and poverty-stricken areas and ethnic areas can receive high-quality higher vocational education, so that people in remote and poverty-stricken areas and ethnic areas can get rich as soon as possible, enjoying a well-off society together and a happy life. In fact, in 2014, in the National Vocational Education Working Conference, Xi Jinping, General Secretary of the CPC Central Committee, State President, and Chairman of the Central Military Commission, made important instructions on accelerating the development of vocational education. He emphasized that vocational education is an important part of the national education system and human resource development; it is an important channel for the young people to open the door to success; it takes the responsibility for the education of versified talents, the inheritance of technology and skills, and the promotion of employment and business starting. It must be attached great importance to and be developed vigorously. He pointed out that it was necessary to establish a correct view of talents, cultivate and practice the core values of socialism, focus on improving the quality of talent training, promote the glory of labor and the precious of skills, set the great fashion in the times, and create an environment for everyone to realize and show their talents, and strive to train hundreds of millions of high-quality workers and technicians. Greater support for vocational education in rural areas, ethnic areas, and poverty-stricken area should be given with great efforts to give everyone a chance to put up an outstanding show through their lives. It is the very representation of the essence of "Chinese Dream", initiated by President Xi. His "Chinese Dream" is the dream of all Chinese with the aim to realize
national prosperity, national rejuvenation, and people’s happiness. In his eyes, education is not only the chance to get educated, but the chance for all Chinese to be happy with their own outstanding shows. This means vocational education is raised to the higher position of national strategic arrangement and endowed with especially political connotation. In this sense, vocational education is a political issue mattering with all Chinese people’s happiness, especially the feeling of the fulfillment of their lives. This is Xi jingping’s dialectical view of talents. That is why he puts more emphasis on the development of Chinese vocational education. He urged party committees and governments at all levels to place the acceleration of the development of modern vocational education in a more prominent position, give better support and help develop the vocational education, and provide the solid talent guarantee for achieving the goal of “two hundred years” and the "Chinese dream" of the great rejuvenation of the Chinese nation (Ni, 2014).

Admittedly, the economic position of Chinese vocational education is self-evident. The realization of "Chinese Dream" is a long-term project, one of the greatest projects in Chinese history. It must need generations of Chinese to spare their greatest efforts to make it come true. In the process of its realization, talent pool is the perquisite. In recent years, the contradiction between the lower employment rate of fresh graduates and the increase in the gap in high-quality technical employment has persisted, and to some extent has become a prominent factor restricting the upgrading of China's industrial structure. With the advent of Industry 4.0, China's traditional manufacturing industry is gradually transforming into digitalization and informatization. After transformation the fundamental technical work has been tremendously innovated on the basis of the original level, and the corresponding technology has not been popularly taught in schools. In 2020, it is estimated that the talent gap of the new generation talents of information technology industry will amount to about 7.5 million, only those of high-grade CNC machine tools and robots will be 3 million. Owing to this huge talent gap, it highlights the importance of the vocational education mission. It is urgent to optimize the supply structure of the talent according to industry and market changes and accurately cate for the needs of talents in key areas (Zhang, 2020). Not to mention, in the transitional period of national economy, new technology, new industry, and new form of business mushroom than ever before. This is the representation of a new era of China. In the era, China's economy has shifted from the stage of high-speed growth to that one of high-quality development. The accelerating process of industrialization, informatization, marketization, urbanization, and internationalization has posed an urgent need for the high-quality development of vocational education and also a great challenge for vocational talent preparation. In this context, "Double High Projects" discussed above comes into being as a response to the demand of the upgrading of industry and the structuring of economy. It aims to build the highland of the education and training of talents for the high-end industry, serving for the Chinese industry to step onto the mid and high-end of the global industry. This is why in the Notice of the Issue of "National Vocational Education Reform Implementation Plan by State Council", vocational education is seen as equal to general education and put in a more prominent position of the innovation of education reform and the economic and social development. It requires vocational colleges from 2019 on, focusing on modern agriculture, advanced manufacturing, modern service industry, and strategic emerging industries, to vigorously carry out vocational training in about 10 fields where technical skills are in short supply. ("Notice of the State Council on Issuing the National Vocational Education Reform Implementation Plan," 2019).

Besides the role of strategic position of vocational education defined by Chinese authority, even for education, the present vocational education plays a great part in the whole educational system, not only itself. It suggests vocational education is an important breakthrough in deepening education reform. For example in higher education, in the process of the transformation of the majority of undergraduate colleges and universities into application-oriented ones arranged by the Party Central Committee and the State Council, vocational higher education can provide its rich experience, procedures, and standards of long-time accumulation. One the one hand, vocational education has to carry out its own structural reform in supply side as happens in the economy; on the other hand, it still has to provide its experience, procedures, and standards of long-time
accumulation as well as those from its own structural reform for colleges and universities involved with transformation. It is because only it is greatly familiar with professional fields, industry change, and market condition. It can serve as a model for these colleges and universities, and also a great information provider for them. It is the reason why Chinese government put the transformation of some undergraduate colleges and universities in the "National Vocational Education Reform Implementation Plan". Moreover, the further support from government will be provided for the development of undergraduate colleges and universities involved. Various regions will be supported to adjust and optimize the structure of higher education, pay more attention to application-oriented ones in the setting up of colleges and universities, explore the establishment of a higher education classification system, and promote colleges and universities towards the diversification of school running and characteristic development. Even for the admission scheme of colleges and universities is promoted with the inclination towards the urgent need of talents for industrial developments to increase the proportion of application-oriented, technical-skilled and compound talents in education. The newly-increased enrollment scheme for higher education is mainly inclined to the cultivation of application-oriented and technical skills. Strengthening the construction of the experimental training practice environment, platform and base will be need for applied undergraduate colleges and universities, encouraging the participation of industry enterprises, and constructing the facilities for experiment, training, and internship, integrating industry and education, school-enterprise cooperation, and industry-university-research. In addition to the transformation and development of ordinary undergraduate colleges and universities, the newly upgraded undergraduate colleges in 2018 and in the future will be mainly positioned at the undergraduate level of vocational education. At the same time, the transfer of independent colleges should also be developed as applied ones (Gao, 2019). All support and measures from government mentioned above center on the transformation of some colleges and universities from the present academic orientation to the vocational orientation. Besides the transformation of these colleges and universities, 21 colleges have been upgraded to vocational universities with professional bachelor degree. However, they are required not to retain the word "vocational" in their full names (Fan, 2020). The prescription of the name with "vocational" shows that change from the nature of the past academic education to that of the present vocational education is the trend of academic higher education and also the government policy for the structural reform in higher education field.

3. CONCLUSION

From the description and exploration above, the role, value, and significance of vocational education and its reform are self-evident, and not underestimated in the structural reform in the supply side of economy as well as the long-term development of politics, economy, and culture. All attributes to the orientation in its reform. This makes it achieve the same status as the general education in China. From now on, the two types of education in China can be in parallel with each other. However, it cannot stop here, namely, unable to stand on the opposite of general education. It should actively explore how to integrate with general education with different extents at different levels of its own development for the sake of mutual borrowing. In this way the gap between the two types of education in China can be narrowed down, even cemented as unity in the context of China’s incessant supply-side reform, really bringing great wellbeing to Chinese people.

AUTHORS’ CONTRIBUTIONS

Weimin Yuan wrote the manuscript; Yajuan Wang contributed to revising and editing.

REFERENCES


MoE. (2019a). Announcement on the proposed units of high-level vocational schools with Chinese characteristics and professional construction plans. Retrieved from 2020-10-31


Officials pointed out that the number of students in China’s higher vocational education exceeded 10 million for the first time. (2015).


