

An Analysis of Secondary Vocational Education Development in China in Recent Ten Years Based on China Statistical Yearbook

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Abstract—As a vital part of the vocational education system, secondary vocational education continuously transports primary and intermediate technical personnel for the society. Based on the data in the past decade through the platform of China Statistical Yearbook, this paper not only reflects the maturity of it in China, but also embodies the profound understanding of the essence of secondary vocational education activities. In order to provide reference for the sustainable development of secondary vocational education.

Keywords-secondary vocational education; development status; suggestions and measures

1 INTRODUCTION

The experience of vocational education development all over the world show that vocational education is one of the elements to improve national core competitiveness. With the promotion of economic globalization, it has given birth to the innovation of vocational education development and reform [1]. Secondary vocational education is the foundation of economic and social development, shouldering the important mission of training high-quality workers. As the first track of China's education system, it has typical research significance. Therefore, grasping the development context of secondary vocational education accurately and analyzing the basic laws of process of secondary vocational education objectively in China could provide more applied skilled talents for the world to comprehensively advance the Education 2030 Framework for Action and provide suggestions for further promoting the reform of secondary vocational education system and strengthening the connotation construction [2].

This paper focuses on the statistical analysis and summary, and tries to find out the development direction of secondary vocational education to provide reference for the sustainable development of secondary vocational education.

2 BASIC SITUATION OF SECONDARY VOCATIONAL EDUCATION DEVELOPMENT

Vocational education was introduced into China in the 1860s. Changes in domestic politics, economy and social environment have led to the changes in cultural and education. The state has proposed that the center of education work should be shifted to serve the national economy, Secondary vocational education has ushered in a rare golden period of development. Since 2010, despite a little improvement in it, but not by its endogenous force. Based on the development of the past decade, the following review is made.

2.1 the Number of Secondary Vocational Schools is Declining Rapidly

With the China Statistical Yearbook data platform shows that: since the 21st century, the number of secondary vocational education institutions continued to decline, the data from 2012 to 2021 is shown in Figure 1. In 2020, there are only 9896 secondary vocational education schools in China, which is 9831 less than 19727 in the peak of the millennium, a decrease of 49.84%, approaching 50%. According to the Ministry of Education Development Planning Division published 2021 national career statistics main results data show that between 2020 and 2021, the national secondary vocational schools sharply reduced exceed 2500, secondary vocational schools in 2021 only 7294 [3].

So as to improve the quality of secondary vocational schools, by reported that some provinces have issued targets to reduce the schools' amount. For example, the vocational education conference held in Shanxi Province in 2012 planned to adjust secondary vocational schools from 572 to about 300; in 2015, the Beijing Municipal Education Commission requested to reduce 116 secondary vocational schools to 60 in 2020. For a long time, schools can not recruit enough students and other issues.

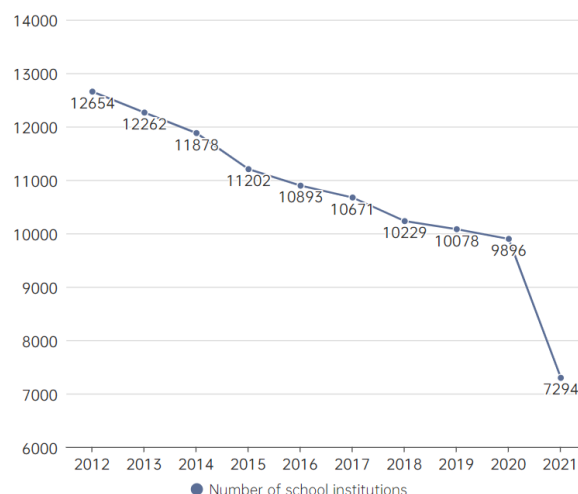


Figure 1 Changes in the Number of Secondary Vocational Education Schools in the Past Ten Years

2.2 The Enrollment Number of Secondary Vocational Education Staged Increase and Decrease

Validation of a broadly comparable universal representation proposed in 2005 [4]. As shown in Figure 2, China's general vocational ratio continues to improve, tending to 1: 1 ratio; the enrollment scale of secondary vocational schools in 2009 and 2010 exceeded that of ordinary high schools. However, due to the community's understanding of secondary vocational education is not yet mature, and social recruitment is also more emphasis on high-diploma individuals [5]and other issues leading to long-term lack of attractiveness; most students are not willing to go to vocational schools to continue their studies after graduating from junior high school. Parents also believe that such schools have poor learning atmosphere and slim employment prospects.

From 2006 to 2010, comes at a time China's Eleventh Five-Year period, encouraged by education policy, the amount of secondary vocational schools and students accounted for the proportion of secondary vocational schools have rebounded. After 2011, various regions centralized resources to run education, the schools' quantity and enrollment fell in proportion.

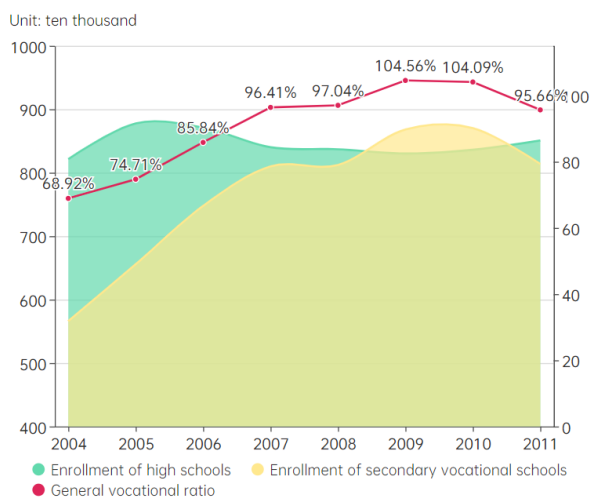


Figure 2 Enrollment of High Schools and Secondary and General Vocational Ratio from 2004 to 2011

From 2012 to 2018, the enrollment in secondary vocational schools gradually decreased 1.971 million, a decrease of 26.1%; In 2019, secondary vocational education reached an inflection point. Under policies, secondary vocational enrollment ratio began to slowly rebound, increasing by about 434,000 compared with 2018. Good times don't last long. In 2021, the number fell sharply, lower than the low point in 2018, only 4.89 million. On the contrary, since a slight decline in 2018, the enrollment of regular high schools has steadily increased: 8.395 million in 2019, 8.764 million in 2020, and 9.049 million in 2021. As shown in Figure 3, the line chart of the enrollment approaches a parallel relationship in the 2018-2020 period, pulling a huge gap in 2021. The difference in enrollment is 4.159 million, close to 85.1 % of the enrollment of secondary vocational schools in that year. According to the author's speculation, with the improvement of the mutual recognition between vocational education

and general education, the recognition, social attraction will be further improved, the entrance channels for secondary vocational students will also be smoother as well.

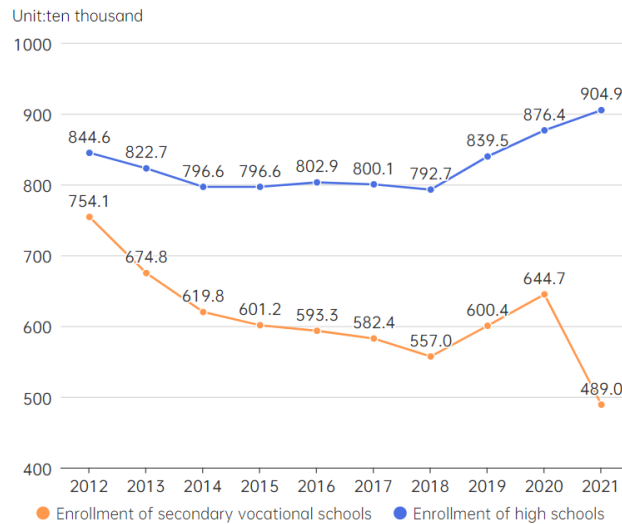


Figure 3 Changes in the Number of Students Enrolled in Secondary Vocational and High Schools in the Past Decade

2.3 Small Difference in the Number of Full-time Teachers in Secondary Vocational Education

According to the relevant provisions, full-time teachers are teachers with basic knowledge and professional knowledge. Full-time teachers must meet the following requirements: first, have a higher education teacher qualification certificate. Second, undertake teaching work during the statistical period [6]. Higher education teacher qualification certificate that full-time teachers have a certain teaching ability, literacy and knowledge reserves; taking the corresponding teaching work in the statistical time period means that full-time teachers need to bear all the hours of students' academic learning; its configuration plays an active role in the development of secondary vocational education and teaching activities and practical courses. At the same time, escort the development of professional basic and practical courses.

Extracted from the China Statistical Yearbook database full-time teachers in secondary vocational schools and higher vocational schools data for comparative analysis, as shown in Figure 4. In the past ten years, the number of teachers is not proportional to the enrollment of students, on the contrary, remained stable. The number of full-time teachers decreased slightly from 2012 to 2018, then slowly picked up again, and saw a precipitous loss in last year. In contrast, the count of full-time teachers in higher education institutions has increased slightly, with an annual increase of about 1.23 million.

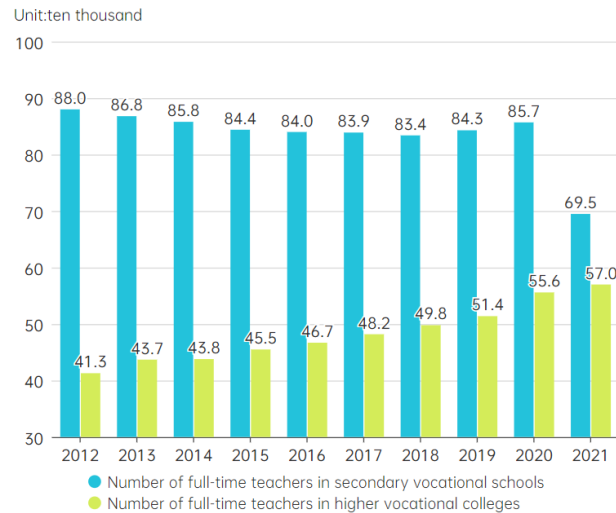


Figure 4 2012-2021 Analysis of the Number of Full-time Teachers in Secondary and Higher Vocational Schools

Secondary and higher vocational education differ in depth and breadth of educational content. The purpose of secondary vocational education is to teach students basic professional theoretical knowledge and basic skills or general abilities of related occupations [8]; higher vocational colleges involve deeper knowledge content, more targeted skills training, but also need to have a certain innovation ability. Secondary vocational education is the cornerstone of higher vocational education, and the development of it is fully established on the basis of secondary vocational education. Therefore, while expanding their own development, higher vocational colleges also need to continuously absorb high-quality teachers to enhance the teaching of higher vocational students. However, problems such as low self-recognition of secondary vocational schools, small policy tilt and unstable enrollment directly affect the tenure probability of full-time teachers and ordinary teachers. Some teachers in secondary vocational schools are difficult to find their own value in the teaching system, so they lack the motivation of educational achievement and choose to leave their jobs. In addition, due to the large gap between the hardware and software facilities of some secondary vocational colleges, the shortage of teachers, poor structure, low quality, poor liquidity of schools and enterprises and other problems restricting their own development are relatively common.

The above quantitative analysis shows that secondary vocational education in China has begun to take shape; however, compared with ordinary high school education, higher vocational and technical education, there are still schools can't get enough students and full-time teachers and other instability. In the meanwhile, secondary vocational schools have low social recognition and lack of school-running characteristics. In addition, the government's policy support for secondary vocational schools is limited, so that it needs to be helped to achieve its own benign development.

3 PROPOSED MEASURES FOR THE DEVELOPMENT OF SECONDARY VOCATIONAL EDUCATION

At present, the reform and development of secondary vocational and technical education in China should highlight the four characteristics of integration, specialization, integration and futuristic [7], so as to improve the self-cognition and vocational skills of secondary college students and enrich the evaluation system. Borrow China Statistical Yearbook to review the relevant data of secondary vocational schools in nearly decade, in view of its shortcomings, and limited by the author's own level, the following suggestions are put forward.

3.1 Considering the Actual Situation in Different Regions and Optimizing the Structure of Secondary Vocational Education

At present, China 's economy has started high-quality development. With the changes in the world situation, the competition for talents has become the source of all competition. China's education policy documents have repeatedly mentioned the optimization of secondary vocational education. For instance, the introduction of National Vocational Education Reform Implementation Plan, which requires guiding localities to optimize the structural layout of secondary vocational schools, scientifically allocate, expand and strengthen vocational education resources. Invigorating secondary vocational education resources and optimizing the school layout structure are the key tasks to promote the high-quality forward of secondary vocational schools [8]. On the basis of analysis of the declining trend of the number of schools, local education authorities should concentrate superior resources on education. Taking into account the actual situation in various regions, the focus is to support to build a good secondary vocational school with regional teaching characteristics, develop school-based courses suitable for employment, and integrate enterprise resources into employment options.

3.2 Strengthen the Construction of Teaching Staff, Teach Well and Retain Teachers

Teachers are the designers and implementers of education and teaching work, as well as the guides, caregivers and witnesses of valuable time on the way of students' growth. The count of secondary vocational education teachers is small, social recognition is not high, resulting in secondary vocational education ignore sustainable development and lack of attractiveness [9].

In view of the current development, the number of teachers should be increased. The increase in it directly drives the increase in the teacher-student ratio, so that every secondary vocational student can receive personalized guidance from full-time teachers. Secondly, construct and enrich double-qualified teachers. Double-qualified teacher is the general term of teachers and technicians, secondary vocational schools should build a two-way employment mechanism with enterprises; promote the flexible and efficient flow between education and technicians. In addition, methods such as optimizing the structure of teacher preparation, preferential policies in remote areas, giving teachers more welfare guarantees, and more promotion channels will help teachers develop their abilities. Not only teach well, but also retain teachers.

3.3 Promoting Accurate School Running with the Goal of Employment and Further Study

As the first sub-track of China's education system, vocational education is as vital as high

school education. It also shoulders the dual mission of employment and further education. In this regard, secondary vocational schools need to solve the convergence and promotion of dual-track dual-pass talent training system to cultivate good students who can work and go to school.

On the one hand, we should open up enterprises and institutions in various regions to build a high-quality, counterpart work platform for secondary vocational school graduates. Vocational school teachers and education management departments are able to be based on the distribution of industry in the region, through visits, research, run a school to enterprise directional training mechanism; in view of the on-site scheduling of jobs, arrange learning courses and practical exploration; make schools take initiative to go out to participate in the construction of local real economy, and enterprises come in to promote the implementation of jobs. On the other hand, plan to implement the vocational education college entrance examination implementation. At present, only Jiangsu, Shandong and Jiangxi provinces have improved the system. The Fourth Session of the 13th National People's Congress in 2021 said we will gradually establish vocational education enrollment system, so that secondary vocational school graduates can enjoy more diverse educational choices and smoother academic promotion channels [10]. Opinions on the issuance of the CPC Central Committee and the General Office of the State Council in October 2021 and the promulgation of the Vocational Education Law of the People's Republic of China in April 2022, it is evident that ensuring the employment and further education of vocational college students and cultivating the comprehensive ability of secondary vocational students are the only way for secondary vocational education to enhance its attractiveness and strengthen its connotation construction.

In summary, from the view of the data of secondary vocational schools in the past ten years and in view of the promulgation of the current education policy, the author believe that the society, relevant government departments, all kinds of educators, enterprises and institutions together carefully watered secondary vocational education in order to make its ecological balance in order to make it further stable and far-reaching development.

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