

The Influence of Chinese Basic Educational Tracking on Its Vocational Education: A Comparative Study of Educational Tracking in China and Germany

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Abstract: A majority of current comparative studies on vocational education in China and Germany emphasize China's reference to the dual education system of Germany, but pay less attention to the impact of the two countries' educational tracking (or streaming) on their own development of vocational education. This study adopts the literature research method to explore the impact of basic educational tracking on China's vocational education system by comparing the differences between China and Germany in basic educational tracking. It is found that China's basic education tracking has, to some extent, hindered the progress of vocational education due to its disadvantages such as insufficient preparation, late tracking time, and an unbalanced distribution ratio.

Keywords: basic educational tracking, vocational education, comparative study

1. Introduction

The progress of China's vocational education has encountered obstacles in recent years. Scholars are inclined to focus on various drawbacks after the implementation of educational tracking, such as analyzing the causes from the aspects of the training mode, curriculum setting, management system, and school-enterprise cooperation, but seldom touching on the source of the problem, namely, the system of the tracking of education itself. Educational tracking is an irreplaceable constituent of the education system and plays an indispensable part in the process of education development. Through the comparison of the differences between China and Germany in the basic educational tracking system, this study conducts a comparative analysis to investigate and discuss the drawbacks of China's educational tracking system from three aspects: preparation, time, and proportion of tracking. This study fills the gap in the research of China's vocational education and provides guidance for the reform of vocational education to some extent.

2. An Overview of Chinese and German Basic Education Tracking

Generally, basic education is the education before higher education, that is, from kindergarten to high school. In the German education system, basic education consists of three stages: preschool education, primary education, and secondary education, among which secondary education is further divided into two periods: the first is equivalent to China's junior high school education, and the second is senior high school education. During these three stages, students experience three times of streaming.

The first time of streaming occurs during the first phase of secondary education. At the end of the fourth grade, students enter primary education. They first go through two years of oriented learning, and then according to their own intelligence, interest, talent, and development planning, they are transferred to hauptschule, realschule, and gymnasium, which provide rudimental, improved, and deeper basic education respectively. In the second time of streaming, gymnasium students are directly promoted to senior high schools. Students who meet the standards can be transferred from hauptschule (secondary general school for grades 5 through 9 or 10) to realschule (more practical secondary school for grades 5 through 10), or from realschule to gymnasium (more academic secondary school for grades 5 through 12 or 13), and the remaining students will enter the track of vocational education. At the end of secondary education, the majority of vocational education graduates directly go to work, and a few of them go to junior colleges to receive higher education; graduates from gymnasium go to regular higher education [1].

In 1985, Decision of the Central Committee of the Communist Party of China on the Reform of the Education System determined that the educational tracking system would be implemented from 1985, thus the tracking system of basic education was formally established in China. For Chinese teens, educational tracking begins in middle school. Some junior high school graduates attend regular senior high schools, while others attend specialized secondary schools for vocational and technical education. Some seniors in high school enroll in traditional institutions, while others pursue advanced technical and vocational education. After finishing elementary school, those who earned vocational and technical education at the junior middle school level may find work or pursue higher education [2].

3. Deficiencies of Chinese Basic Educational Tracking

3.1. A Lack of Tracking Preparation

It is found that there is a significant difference between China and Germany by comparing their basic education tracking systems, that is, Germany sets a two-year's orientation period while China lacks a tracking preparation period before the first diversion. The orientation period in Germany is between 10 and 12 years old. According to Piaget's theory of cognitive development, children's mode of thinking in this period has become mature and conservative, and they are in the transition stage from concrete operation to formal operation. The timing selection of the orientation period conforms to the law of children's thinking development, which is conducive to children's self-discovery of their own personal interests and advantages in the transitional stage, so as to start learning topics of personal interest in the early stage of abstract thinking formation, which improves the efficiency of education, meets the needs of children at different stages of development, and realizes the efficient connection of all stages of development. The lack of preparation period in China means a shortage of humanistic care, making educational tracking more mandatory. By taking the objective exam results as the only criterion for diversion, educational tracking in China neglects students' subjective will. Once the evaluation criteria are standardized, it will lead to the unification of behavior, further generating the consistency of thinking patterns. This chain reaction not only hinders the reform trend of China's quality education but also further solidifies the Chinese people's advocacy for high grades, exacerbates competition, increases academic pressure, and is even more unfavorable for the cultivation of innovative talents. At the same time, the neglect of individual will and personal traits during the first time of streaming will undermine the stability of the results and affect whether students will develop according to the track after the first streaming. Considering that there is no horizontal switch channel between ordinary high schools and specialized secondary schools, dissatisfaction with the tracking results and difficulty in changing increases the probability of dropping out after the first streaming; On the other hand, the results of the first streaming provide a source of students for the

second streaming, and therefore the instability of the first streaming results also affects the continuous progress of the second streaming.

3.2. A Delay in Tracking Time

German teenagers begin their first streaming after two years of orientation, mostly between the ages of 12 and 13. The first time for Chinese teenagers to be streamed is after they graduate from junior high school when they are about 15 years old, which is about 3 years lagged compared with Germany. Early streaming is not only beneficial to promote the utilization efficiency and pertinence of educational resources but can also improve the validity of talent selection, since the earlier the determination of potential in life, the less likely it is to be covered up and defiled [3]. The younger the child is, the easier it is to identify his or her talent. With the passage of time, the talent of the individual is more likely to be covered up by the acquired practice. Low-gifted individuals can achieve a level consistent with high-gifted individuals through more practice, thus increasing the difficulty of educational tracking. It is not conducive to the realization of the original intention of educational tracking-- "Educational tracking means that students with different abilities are placed in different schools, classes, or courses so that they can receive an education suitable to their own ability level to engage in a certain profession in the future [4]". Moreover, biological inequalities cannot be eliminated by cultural measures [5]. It is unrealistic to try to eliminate biological differences by prolonging the period of unified education. On the contrary, the delay of tracking prolongs the time for compulsory learning of knowledge that is inconsistent with personal interests, which is easy to provoke resistance, bringing unnecessary pressure to individuals. Meanwhile, a delay in tracking time buries personal talent and misses the opportunity for wholesome development. However, there is also a significant disadvantage of early tracking, that is, it may sacrifice students who mature slowly [6], to which the "transfer channel" (mechanism for horizontal transition at the same level) in the German educational tracking system provides an effective response.

3.3. A Barrier to Tracking Trajectory

Among the three times of streaming in Germany, the second streaming provides an opportunity for horizontal transition at the same level, breaks through the barriers between regular education and vocational education, gives teenagers a second choice, and reduces the probability of extreme behaviors such as weariness for study and even dropping out of school. However, there is no opportunity for horizontal transition in China's basic educational tracking system. This kind of barrier seems to be able to maintain the stability of the tracking results in the short term. However, when some general high school students are not keen on theoretical knowledge learning, and some specialized secondary school students are not satisfied with technical knowledge, with the fact that there is no way to realize a conversion, there will be a mismatch between teaching and learning needs, which will affect their academic performance, or even lead to the outcome of dropping out of school, wasting educational resources and sacrificing the golden time of individual development.

3.4. A Disproportion in the Tracking Ratio

The current employment market in China is facing a dual dilemma: on the one hand, the unemployment rate of undergraduate graduates rises; on the other hand, technical positions are in a situation of labor shortage. This reflects the increasingly prominent structural contradiction in employment in China. In the final analysis, this dilemma is inseparable from the unreasonable education distribution ratio. According to the data of the German Federal Ministry of Education and Research (BMBF), the number of eighth-grade students in Germany in 2018 was distributed as follows: the proportion of students in *hauptschule* was 9%, *realschule* 19%, mixed secondary schools

of hauptschule and realschule 13%, and comprehensive secondary schools comprising hauptschule, realschule, and gymnasium 21%, while gymnasium based solely on academic education only 38% [7]. However, in China, according to the data of the past five years from 2015 to 2019, the enrollment ratios of regular high schools and specialized secondary schools are 57:43 [8], 57.5:42.5 [9], 57.9:42.1 [10], 58.7:41.3 [11], and 58.3:41.7 [12], respectively, which indicates that the proportion of regular high school enrollment is in a growing trend while that of specialized secondary school enrollment is decreasing. This reflects the imbalance of the regular-specialized high school ratio in secondary education. According to the Statistical Report on the Development of National Education in 2020, there were 9,896 specialized secondary schools in China, 182 fewer than the previous year. Vocational school graduates reached 4.848,700, down 86,000 from the previous year [13]. In order to alleviate the current labor market predicament, it is necessary to adjust the proportion of tracking from the source.

4. Conclusion

The obstruction of vocational education is a significant predicament in China's development of education nowadays. The solution of the problem cannot be separated from the correct understanding of the source of the problem. By comparing the educational tracking systems in Germany and China, it is found that there are many drawbacks in the tracking system of basic education in China. The lack of preparation before tracking affects the stability of the result of the diversion, the lack of diversity of the tracking standard violates the trend of quality education, the lag of tracking time neglects the law of individual thinking development, the barrier to the tracking trajectory stifles the possibility of teenagers' better development, and the imbalance of the tracking ratio causes the dilemma of the job market. These drawbacks turn Chinese tracking system into an elimination mechanism rather than a choice mechanism to a certain extent [14]. The reason why German vocational education is so advanced is inseparable from the scientific, meticulous, and interlocking tracking system. Meanwhile, the combined effect of other educational systems cannot be ignored. The reform of the tracking system of basic education in China must be a gradual process, which needs to start from multiple links together, and also needs to reform other educational systems to cooperate, so as to achieve the ideal reform goal. The basic education system reform involves intricate factors and has a long way to go. To reach the ideal goal of reform, it is essential to conduct in-depth research on the problems such as what the ideal reform sequence is in view of the problems of the basic education diversion system, what influence it will bring to the tracking system of higher education after the reform of the tracking system of basic education, and what other educational systems need to be reformed to support the change of the tracking system of basic education.

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