

Comparisons between the Chinese and German Vocational Education Systems (VET) Shaped by Sociocultural and Economic Factors

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Abstract: *Although international comparisons in education are fraught with danger, conducting comparative research in the field of vocational education research can not only reveal differences in different countries at the level of their respective education systems but also draw from each other's success in developing vocational education systems (VET) into the sociocultural and economic factors, also overcome obstacles that hinder VET process. This article will examine the characteristics of the vocational education system and training in Germany and China, comparing the similarities and differences in the development of VET in these two countries under the influence of sociocultural and economy, and the challenges faced by these two countries' VET. Meanwhile, this article employs the theoretical framework provided by Bourdieu's theory to analyze the societal evolution of the German and Chinese VET in society.*

Keywords: *Vocational Education Systems (VET); German vocational education systems; Chinese vocational education systems; Sociocultural capital; Economic capital*

1. Introduction

The characteristics of VET development discussed by Li and Pilz's research are all interrelated, and comparative research on VET can be critically reflected from different perspectives (2023)^[7]. Germany and China have obvious similarities in VET, with thirty years of cooperation in this field^[8]. Therefore, the comparison of VET between China and German in this article will be embodied in the sociocultural aspects: traditional social concepts, social cognition, and educational system structure. The economic aspect is manifested in business participation, increased professional skills level, and economic and financial support. The Bourdieu theoretical framework utilized could help to understand and explain how privilege and disadvantage sustain the processes of social reproduction and affect individuals^[12]. In education, Bourdieu's theory usually analyzes how educational opportunities are distributed in society and how it reproduces and changes social structures^[10]. Therefore, this article employs Bourdieu's theory to analyze and help to understand the process of vocational development in China and Germany, taking into account the sociocultural and economic influence of vocational education as well as their interaction.

2. Sociocultural—Common Features and Differences in VET Structure: China and German

Vocational education plays a significant role in the local social culture of both China and Germany. Currently, China has the largest vocational education and training system in the world (Stewart, 2015). While Germany's vocational education system is relatively stable and comprehensive, Germany's apprenticeship training and dual-track system have been robust^[4]. Haasler also emphasizes that Germany's dual-track system has been widely discussed and studied internationally, and is maintained as a model for countries around the world (2020). Although Pilz and Li (2014) suggested that VET in China is closest to Germany, Stewart argues that VET and training is a complex systems, and there are obvious differences between them (2015). Initially, the most obvious difference is "apprenticeship".

In Germany, the apprenticeship model originally based on crafts has been utilized for skills development required by industry. This model combines theoretical knowledge acquired in vocational schools with practical training in companies to provide standardized skills and reduce youth unemployment in society with the aim of providing new and accelerating engineering^[4]. Deissinger and

Gonon also mention that apprenticeships exist in almost all company sectors in Germany (2021). In addition, Ertelt et al. believe that the establishment of apprenticeships is of great significance to the personality development and personal skills development of young people, which can enable young people to better adapt to the labor market with changing demands (2021). In contrast, China only offers apprenticeships in traditional cultural fields such as Chinese opera, Chinese medicine, and martial arts [11], whereas Germany has a wider range of vocational training programs available. Stewart mentioned that although these traditional cultural studies are related to occupations, due to the declining trend of traditional cultures in contemporary Chinese society, most young people will not pursue related occupational paths (2015). Instead, school-based vocational education programs and training have taken their place.

Through the literature review, it has been found that both China and Germany have highly structured education systems in school-based vocational education and training. They both establish full-time vocational schools and offer national VET certificates, enabling students to complete VET training and subsequently choose between entering the workforce or pursuing further studies at a higher education institution [1][4][8][11]. However, there is a slight difference between China and Germany in terms of the VET structures. In Germany, young people under the age of not permitted to attend full-time vocational schools, but can enroll in part-time vocational schools [1]. China has both junior vocational schools and higher vocational schools, and after completing junior vocational school courses, the graduates are able to enter the labor market directly [11]. Additionally, both China and Germany employ the dual-track curriculum system. But the difference is that Germany's dual-track system is more pragmatic. In Germany's dual-track curriculum, 70% of the time is spent in practical training in the desired company, while the remaining 30% is spent learning theoretical knowledge in vocational schools [6]. Rich practical training provides young people with a competitive edge in terms of employability and aligns the requirements of young people for working life [3]. Otherwise, China's dual-track system is limited to practical learning within vocational schools, and vocational training in China is more academic rather than practical. As a result, young people in China always lack practical skills for employment, and there is a significant disconnect between employers' needs and the training system [8].

3. Sociocultural—Traditional social concepts/condition

Under the influence of traditional cultural concepts and cognition, the development of VET in China and Germany faces similar challenges in higher (academic) education. However, the social and cultural nature of the influencing factors is different. As for China, although Chinese traditional culture (CTC) teaching is one of the important abilities in vocational education [5], it has a profound impact on young people's cognition. Stewart noted in his research that "The Analects of Confucius" reflects the traditional Chinese belief that those who engage in mental work can manage those who perform physical work (2015). Therefore, according to Jiang (2022) and Stewart (2015), it can be seen that in Chinese society that vocational education is generally regarded as that vocational education is inferior to academic education, and there is a clear distinction between academic education and vocational education. Specifically, primary vocational schools are mainly located in undeveloped rural areas, while higher vocational schools and dual-track training programs are located available in urban cities and developed areas. Hence, when Chinese parents can choose general academic education, there is little incentive to pursue vocational education [11]. This has brought obstacles to the development of vocational education in China, and China's modern labor market is also facing the challenge of low-skilled human resources [9].

Compared with Germany's dual-track system and apprenticeship system, young people will form a high degree of professional recognition. The German educational philosophy focuses on the personality development of young people and their successful enrollment into work and society [3]. However, the status of the German dual-track system has also been challenged by higher education [4]. Haasler believes this is due to accelerated technological change and the development of digital skills, driving companies increasingly to rely on university graduates who are better able to adapt to the flexibility of the labor market and rapidly evolving technology (2020). Between 2000 and 2017, the number of people educated in higher education and universities of applied sciences has increased by more than 19%, and they occupy the upper middle and upper levels of the dual system. During this period, the proportion of students with a minimum vocational certificate entering the dual track system fell from 28.8% to 23.6% [4]. This is difficult for German society, which not only increases the inequality of German society but also contributes to the unemployment rate among young people.

4. Theoretical Analysis

Through the above comparison, the concepts of cultural capital and Habitus in Bourdieu's theory to can be utilized to understand and analyze the development and changes of VET in China and Germany under the influence of sociocultural. First, the concept of cultural capital refers to an individual's mental and physical resources, such as courses, books, or skills, which can shape cultural construction and individual behavior [12]. Then, the concept of Habitus refers to the resources that individuals bring into the field (Education), such as cognition or perception, which is usually a combination of economic, social, and cultural capital [12]. In plain speaking, Habitus can shape people's cognitive representation of the world. The above comparison can reveal and analyze that the traditional concepts of Chinese society have shaped the Chinese people's prejudice against vocational education [11]. Moreover, this kind of Habitus affects the more scholarly aspects of the Chinese dual-track system, resulting in vocational courses that are more theoretical and graduates who lack practical skills. In other words, Habitus has also caused the lack of "cultural capital" in vocational education for Chinese students. As mentioned by Sablan and Tierney, cultural capital in education should be dynamic and cannot be measured by a single standard (2013). Therefore, Chinese vocational education should not take theoretical knowledge as the focus of the training and learning approach but should give more consideration to the practical approach. It is manifested as helping young people acquire diverse cultural capital and changing the concept of vocational education, which aims to cultivate excellent human capital and promote progress in both society and vocational education [5][10].

By contrast, how enhancing investment in and elevating the cultural capital of vocational education is more significant for Germany. Ertel et al. consider that the development of higher education and apprenticeships may exacerbate social inequality in Germany, thus obliging an increase in sustainable career opportunities for low-achiever. It is specifically manifested in increasing professional guidance and support during career transition, facilitating the development of young people to build identity and professional persona, as well as enhancing young people's adaptability and self-efficacy, and exploring the meaning of life and career choices. Simultaneously, increases the diversification of job opportunities, such as the service sector, creates irreplaceable jobs, and reduces youth unemployment (2021). This creates new advantages for vocational training and the dual system in Germany. In general, the concept of Habitus and cultural capital and its extended human capital can provide a new perspective to examine the development of VET in China and Germany under the influence of sociocultural. Chinese vocational education is in a critical period of transformation. By comparing with German VET, Chinese VET needs to learn from Germany's relatively complete dual-track system, enhance practical skills training, and change the public's Habitus. In addition, revise the criteria for evaluating the cultural capital of vocational education, add diverse cultural capital concepts into youth education, and establish a relatively mature and stable VET. While Germany's VET is developing steadily but slowly, it requires increasing investment in the acquisition of young people's cultural capital and improving the current shortcomings to create a more fluid and sustainable development system.

5. Economy—Common Features and Differences in VET by Business Engagement and Economic Support: China and Germany

Firstly, as both China and Germany have relatively strong economic backgrounds in the international community, vocational education can easily adapt continuously to changes in the economy. The following comparison will focus on the core factors rather than complicated economic factors. For Germany, economic prosperity is inseparable from a skilled workforce [4]. Haasler's research also confirmed the interlinkage between Germany's high-quality welfare policy and its stable vocational education and training system (2020). China is currently the world's second-largest economy, which has been a key driver of Chinese continued economic growth, and the Chinese manufacturing workforce is critical to the quality and productivity of the industry [8]. Therefore, the integration of education and training systems and labor markets is important for both China and Germany.

The difference is that the high standardization of vocational education and training in Germany has formed a tight coupling with the labor market, which is interconnected with the German social welfare system [4]. Haasler mentioned that the social welfare system in Germany has relied on full-time, continuous, and secure employment in the German industry since the 1960s. Government intervention, support, and financial subsidies have established a dual-track system and created a regulatory framework between the labor market and the social welfare system, resulting in the German vocational education and training system being extremely stable for a long time (2020). However, the vocational education

system in China lacks a comprehensive policy and framework. Historically, vocational education expenditures in China have been significantly lower than those academic education expenditures [11]. In general, SMEs (small and medium-sized enterprises) in China can only rely on local resources and support, yet they lack independent financial resources [8]. On the other hand, Germany's dual-track system relies on an efficient and well-functioning training market, with dual apprenticeships available in almost departments of every company [1]. However, in China, the connection between vocational training schools/institutions and business is relatively weak. Some vocational education institutions lack modern and advanced equipment and fail to establish connections with state-of-the-art enterprises [11]. Stewart illustrated that the Chinese economy is becoming market orientation is among the primary factors, while vocational education and training are still dominated by the government. Moreover, once Chinese state-owned enterprises used to operate their own vocational schools and trained students and workers in job skills, this responsibility has been transferred to the Ministry of Education (2015). Due to the lack of tight cooperation, employers in China complain that both graduates and new employees lack general employability skills and problem-solving abilities [8].

6. Economy—Skill innovation and development

Due to the rapid development of emerging skills and digital transformation in modern society, Germany and China are all faced with similar challenges. In Germany, highly structured vocational education and training are not adapted to this change [4]. Haasler explained that this is due to the early tracking of the German VET system, which assigned students to different paths and tracks, plus the strict organization and development of the German labor market according to the occupational routes, which limits mobility between occupations, workforce flexibility, and social mobility (2015). In China, vocational courses have not been developed with consideration for state-of-the-art industries or economic development, nor has there been a strong emphasis on fostering innovation and entrepreneurship. This makes it impossible for Chinese contemporary vocational education to improve the cultivation and quality of talents or to cultivate suitable human capital [5]. Both Chinese and German companies prioritize experienced workers or university graduates. This leaves young people under-represented in primary labor markets and at a high risk of long-term exclusion from the labor market. At the same time, national industrial and vocational education institutions are also threatened [4][5][8]. Generally, in order to ensure that young people acquire high-level skills, the vocational education and training systems in Germany and China must also respond to labor market needs within the context of digitalization and rapidly changing knowledge-intensive societies [4].

7. Theoretical Analysis

By comparing Chinese and German VET systems under the economic influence, we could utilize Bourdieu's theory of economic and social capital to comprehend their development and evolution. First, economic capital can be directly understood as being related to power, money, and wealth. Such as financial resources or income, etc. What needs to be emphasized here is that all capital is interconvertible, and economic capital is the most easily convertible factor [12]. Second, social capital includes social obligations or relationships and potentially valuable networks [10]. In the above comparison of vocational education and training between China and Germany, the German high-quality welfare system and the Chinese scarce financial resources mentioned both belong to the category of economic capital. The facts have demonstrated that the German high-quality welfare system is closely intertwined with a stable vocational education and training system [4]. Through the analysis, it could be concluded that the reasonable distribution of economic capital provides stable employment opportunities for German society, while a stable employment rate also provides steady fiscal revenue for Germany. This is a mutually beneficial relationship. Furthermore, the stable dual apprenticeship system in Germany has brought highly standardized vocational learning and training to young people, resulting in students have acquired cultural capital. At the same time, the tightly coupled relationship between VET and the labor market in Germany has established valuable network relationships and fulfilled social obligations. While establishing social capital for German society, this relationship also enables students to obtain a certain degree of social capital. Next, students may use the above economic, cultural, and social capital to develop personal human capital, consolidate personal skills and return to society as a powerful human resource. Finally, a positive mutual relationship is thus formed. Devine-Eller's (2005) study confirmed that the use of Bourdieu's theory guides future research in the field of education, and he emphasized that most social interactions are fluid and negotiable [2]. Also, the Bourdieu theoretical framework is also a meaningful, regular way of linking individual actions to cultural rights. Therefore, China's VET

development should adopt the German model and carry out future thinking and innovation apply the Bourdieu theoretical framework. At present, the Chinese scarce financial resources (economic capital), the weak relationship between vocational training institutions and industries (social capital), and insufficient innovation and high-skilled talents (cultural and human capital) cannot fully adapt to the transformation of capital in Bourdieu's theory. If Chinese VET cannot form a positive mutual relationship, the development process will face numerous obstacles and challenges.

8. Conclusion

In summary, international comparisons of education are not always fraught with danger. Based on a comparative analysis of the vocational education systems in China and Germany under the influence of sociocultural and economy, it can be concluded the differences in the basic structure of VET between the two countries are related to different social cognitions, and some similarities can be explained. It is beneficial for both parties to get a more effective reference for the development of VET. The comparison in the economic aspect further reflects the defects and deficiencies of China's VET. Regarding the rapid development of new occupational skills, China and Germany have the same unknown challenges. By applying Bourdieu's theory, it can comprehend the changes in vocational education under the socio-cultural and economic influences in China and Germany, as well as the interrelationship of factors development influence. In the future, both China and Germany can utilize Bourdieu's theory for meaningful and critical thinking.

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