



# Exploration and Enlightenment of Dual-system Vocational Education in Germany

Lingjiao Dong

Department of Electric and Electronic, Wenzhou Polytechnic, Wenzhou, China

**Abstract:** *Germany's dual-system vocational education is well known in the world. In this paper, the dual system of vocational education organizations, enrollment, teaching, assessment and employment in-depth exploration, summed up its legal system is complete, active participation of enterprises, high social recognition, as well as vocational education teachers of high quality characteristics. And use this as a mirror to reflect on the localization of dual-system vocational education, and propose three ways to improve the teaching quality of vocational education.*

**Keywords:** Dual-system; Vocational education; Localization; Teaching quality.

**Cited as:** Dong, L. (2024). Exploration and Enlightenment of Dual-system Vocational Education in Germany. *Journal of Theory and Practice in Education and Innovation*, 1(1), 10–15. Retrieved from <https://woodyinternational.com/index.php/jtpei/article/view/125>

## 1. Introduction

The German dual system is hailed as a model of apprenticeship and even vocational education in the world today. The dual system in Germany has experienced intricate historical evolution, from the initial independent development of vocational training and school education, to the parallel development of the two systems into legalization, training standardization and modernization of training methods. Nowadays, the dual system in Germany has a relatively complete standard system, with distinctive characteristics that take professionalism as the first principle [1]. The cooperative mechanism constructed has balanced the interests of all parties and attracted enterprises to participate highly. Enterprises and schools cooperate to train high-quality vocational and technical personnel to provide a steady stream of talent protection for the German industrialization process [2].

In recent years, China's vocational education has achieved rapid development, but it still needs to be further strengthened in terms of school-enterprise cooperation, innovation of talent training models, and the construction of vocational education teachers. To this end, this article studies the organization, enrollment, teaching, assessment and employment of the dual system of vocational education, aiming to use the German dual system of vocational education to improve the quality of vocational education in China.

## 2. Exploration of German Dual System Vocational Education

### 2.1 Dual Organization

German dual system organization has clear responsibilities. The government is responsible for establishing a standardized legal framework for dual-system vocational education. Incorporate the dual vocational education into the category of secondary compulsory education, open the admission opportunities for dual vocational education to all, and ensure that students who graduate from the dual vocational education have the opportunity to enter higher education. To bear the public expenditure of dual system vocational education. Authorized to various stakeholders, such as industry associations, enterprises, trade unions, government agencies, etc. to carry out related activities to ensure the steady progress of vocational education [3].

The industry association is responsible for organizing the mid-term examination and the final examination for the dual-system vocational education middle school apprentices, and issues certificates for those students who have passed the final examination for graduation. Provide education contracts for enterprises and students, and register

education contracts signed by enterprises and students. Changes in education contracts must be filed in a timely manner with industry associations, and any disputes between educated persons and enterprises will also be adjusted by the industry associations.

The enterprise is responsible for providing learning positions for dual-education students. According to relevant vocational training regulations, it provides systematic teaching for students and conducts vocational education. The apprentice's living allowance, learning materials, trainer's fees, administrative expenses, equipment and venues are paid by the enterprise.

Vocational schools provide compulsory vocational education to dual-system apprentices with the financial support of the state government in accordance with the Compulsory Education Law [4]. Apprentices spend 30% of their time in vocational schools, and one-third of the teaching content imparts general cultural knowledge in accordance with the school curriculum; two-thirds of the teaching content imparts vocational professional theoretical knowledge in accordance with the vocational education standards established in the framework curriculum.

## **2.2 "Dual System" Enrollment**

"Dual system" enrollment is initiated by the enterprise, recruiting workers and recruiting students. Enterprises generally have specialized departments responsible for recruiting dual-system apprentices, such as the marketing department, which publishes recruitment information according to their own development plans. Students apply to education companies, companies review student applications, and select suitable students as training objects through interviews and other methods. After a student obtains a learning position in vocational education, he signs a "vocational education contract" with an education company whose validity period is consistent with the learning period, and becomes a student and an employee. Complete 2-3.5 years of study and practice in business and vocational schools [5].

Enterprises are responsible for recruiting students to meet market demands and truly reflect market orientation. Under normal circumstances, an enterprise will only determine whether to recruit workers after fully considering its own development and employment plan. The number of recruited workers and the majors recruited can truly reflect the market's demand for certain types of talents, thereby ensuring that more than 85% of students can be employed in training companies after graduation, and can largely avoid structural unemployment.

## **2.3 "Dual System" Teaching**

The "dual system" teaching plan includes theoretical teaching plan and skill training plan. The theoretical teaching plan is formulated by the education department in accordance with the "Education Law", which includes the general education part with a wider vocational field and the vocational education part based on general education [6]. The teaching in the general education section is carried out according to the curriculum and teaching plans prescribed by the states, and the teaching in the vocational education section is carried out according to the framework teaching plan promulgated by the Federal Council of Ministers of Education and Cultural Affairs of the Federal States of Germany.

Skill training programs must be carried out in accordance with the "Vocational Training Regulations," which are formulated by the Federal Institute of Vocational Education in accordance with the "Vocational Education Law." The regulations unify the content of vocational training, training objectives, and training requirements. According to the training framework plan, the company will first formulate its own training plan based on its own production reality; then, based on the actual situation of the company's production and apprenticeship, it will formulate an individual apprenticeship training plan and then implement the training.

Played a leading role in the formulation of the "dual system" teaching plan. It can grasp the requirements of job vocational ability from the overall situation, legally stipulate the training requirements of various occupations in enterprises, and determine them in the form of training regulations. The content and objectives of vocational training. It avoids the phenomenon that the schools and enterprises are separate, and the talent training specifications are not unified.

According to regulations, students learn cultural knowledge and professional theoretical knowledge in vocational schools 1.5 days a week, and carry out skills training and production task exercises in enterprises 3.5 days, equivalent to 70% of courses completed in enterprises and 30% of courses completed in vocational schools.

The training places of vocational schools are usually classrooms and laboratories. In the classroom teaching process of the school, teacher pay attention to guidance and the cultivation of students' comprehensive ability. Adopt non-action-oriented teaching methods, through various forms of intensive learning, stimulate learning autonomy and enthusiasm. The action-oriented teaching method is used to closely integrate the teaching content with the work process. Teachers organize and guide students to conduct independent learning on the basis of cooperation and communication, and cultivate students' professional ability, method ability and social ability. Actively create a visual teaching environment for students to display or report the results of the learning process or work process with the help of pictures, blackboards, and multimedia.

There are various training venues for enterprises. In addition to the actual work positions, it also includes practical training factories and internal teaching classrooms. Some smaller enterprises also transfer enterprise training to cross-enterprise training centers [7]. Students are familiar with the production process and management mechanism of the enterprise in the real work situation, understand the professional code of conduct, develop the habit of observing labor discipline and safety regulations, establish quality awareness, master comprehensive professional skills and the ability to deal with practical problems. A clear learning purpose will help students to work immediately after the training.

#### **2.4 Evaluation of "Dual System"**

Apprentices of the German dual system need to pass the intermediate assessment and final assessment organized by the trade association before they can obtain the professional qualification certificate. The intermediate assessment is mainly to understand the student's learning status, check the basic situation of the student's vocational skills, and let the student understand whether it is necessary to adjust the learning plan in the future. Students' final grades. The content of the final assessment exam is based on industry training regulations, and the assessment format is usually three types: practical, theoretical and professional conversation. Students can obtain professional qualifications recognized by the whole country and even the whole EU through the final assessment.

The assessment work undertaken by industry associations is objective, fair and standardized, and it truly achieves the separation of teaching and examination. It can avoid different companies from considering their own needs and deviating from the teaching plan to ensure the quality of vocational education.

#### **2.5 "Dual System" Student Employment**

Germany's dual system of vocational education has a very high degree of social recognition and has received full support from the state [8]. The state has formulated laws and regulations to ensure the employment of students in vocational schools, which allows graduates of vocational schools and ordinary colleges to have fair competition opportunities. Furthermore, the dual-system vocational education has always been oriented to employment, and attached importance to the cultivation of students' professional qualities and vocational skills. Students have accumulated certain work experience through production practices and are very popular with enterprises. When a student graduates, he can either choose an enterprise with whom he has signed an education contract to directly find employment or find a new unit. Regardless of the choice, students do not need to repay all the fees paid by the company for the students during their studies, and when other companies hire students trained by the company, they do not need to pay the related training costs to the company. The unemployment rate of students receiving dual vocational education is only 6%, which is far lower than the unemployment levels of other European countries.

### **3. Reference Points of German "dual system"**

Although China's historical background, cultural traditions, and institutional mechanisms are quite different from Germany, Germany's "dual system" vocational education is difficult to simply replicate in China, but it is worth learning from.

#### **3.1 The Legal System is Complete and the Interests of all Parties are Guaranteed**

All aspects of the dual system of vocational education, from the formulation and implementation of teaching plans, student assessment to employment are guaranteed by the legal system, the most important legal basis of which is the Vocational Education Law promulgated in 1969 and school regulations issued by the states. In addition, the Federal Vocational Education Promotion Law, the Handicraft Regulations, the Youth Labor Protection Law, the

Enterprise Basic Law, and the Training Teacher Qualification Regulations, etc. also play a role in regulating dual-system vocational education. Under the guidance of various laws, students sign contracts with educational companies to establish educational relationships. The education contract is the legal basis for the enterprise to carry out vocational education, and it is also the legal basis for protecting the rights and interests of students. Students use the required tools and materials free of charge during the enterprise training, and receive living allowances on time, and enjoy the agreed rights and benefits. During the half-year trial period, both parties can freely terminate the contract. After the trial period, the enterprise cannot expel students. If the company fails to comply with the contract, the student has the right to file an appeal and protect his own rights.

### **3.2 Active Participation of Enterprises, Deep Integration of Production and Education**

The enterprise can be a leading member of the dual system, willing to invest money and energy for the students. The company either considers its own social responsibility, or establishes a good social image of the company, expands its social reputation, or cultivates the talents it needs to reduce the subsequent recruitment costs and recruitment risks. In addition, employees in German companies have high work stability, companies generally do not fire employees easily, and employees will not easily change jobs. First, because German companies generally value the loyalty of employees, the probability of being hired randomly will be reduced; Second, in the past, there are upper and lower limits on the remuneration of jobs in various industries in Germany, and the companies that change jobs do not make much sense to them. The social atmosphere is good, and the enterprise investment matches its final income, which also makes the enterprise willing to invest. The students trained by the dual education system are also the ones that enterprises really need, and after graduation, students will generally prefer to receive their education enterprises for employment. In the long run, enterprises can obtain high returns on investment. In addition, the company is responsible for enrolling students, and the school assists in training to keep up with the real market demand, and can largely avoid structural unemployment.

### **3.3 Social Recognition is High, Students Really Love It**

Germany has a cultural tradition of advocating science and technology, and attaches great importance to vocational education and vocational and technical personnel. Germans choose careers that focus more on personal interests rather than salary. Because the occupation is not only a means of making a living for the Germans, but also a mission, no distinction between high and low.

Students' career planning starts from a young age. Companies, industry associations and other organizations will provide them with opportunities for career experience, lectures and consultations on career recognition to help students find a career that suits them and truly loves the profession, avoiding the blindness of learning. Choosing a dual system of vocational education is usually a voluntary choice made by students based on their own development needs, and it is not inferior. The social recognition of vocational education is high, and the government provides an ascending channel for students who choose vocational education. Through hard work, students can also become masters and obtain equivalent undergraduate degrees.

### **3.4 High-quality Vocational Education Teachers to Ensure the Quality of Vocational Education and Teaching**

The dual-system vocational education has different requirements for school teachers and enterprise teachers, but no matter what type of teacher, the entry barrier is very high, and special training and evaluation are required.

Teachers of the first category of vocational school teachers and general education classes. This type of teacher can be a graduate with a bachelor's degree, two years of master's degree in education and a master's degree, and then participate in a year and a half of the school of education. Become this kind of teacher; it can also be a non-educational master's degree graduate, apply to the government department, after consent, carry out dual education for 18 months, and obtain a teacher qualification certificate, you can also become this kind of teacher.

Teachers of practical classes in the second vocational school. Bachelor degree or above, but must obtain the qualification of a technician and have more than five years of practical experience. After being hired by a vocational school, train and study at the School of Education for two years, and pass the national teacher qualification exam to become such a teacher.

The third type of enterprise trainer. It is usually a skilled front-line employee of the enterprise, with rich experience

in production practice, no less than 2 years, a technician certificate, and a one-year trainer training in teachers colleges in various states, who pass the education and psychology exams.

## **4. Reflections on the Localization of "Dual System" Education**

### **4.1 In-depth Cooperation between Schools and Enterprises**

Multi-modal and multi-channel deepening of school-enterprise cooperation is the only way for vocational education. The joint training of school-enterprise cooperation to improve the quality of vocational and technical personnel training is the essence of German dual system vocational education. The professional setting of vocational colleges should be combined with regional pillar industries to provide technical support and talent guarantee for regional economic development. Relying on a stand-alone R & D platform and an application technology collaborative innovation center to improve the application technology research and development capabilities, social service capabilities, and the quality of new technology application personnel training. Taking the training of high-quality talents and the breakthrough of new technical problems in enterprises as a breakthrough, it attracts regional leading enterprises to join the vocational education and avoids the embarrassing situation of "school hot and cold" in school-enterprise cooperation projects. Schools and enterprises jointly build majors, participate in the formulation and implementation of professional training plans, and build practical training bases inside and outside the school. Oriented by employment, schools and enterprises jointly build order classes, apprenticeship classes, pilot new talent training models, and strive to advance with the goal of deep integration of production and education.

### **4.2 Talent Training Pays More Attention to Professionalism**

It is necessary to integrate the requirements of the enterprise and society into the talent training program and into the classroom. Integrate professional standards into curriculum standards so that they not only reflect knowledge requirements, skill requirements, but also include attitude requirements, professional ethics requirements, etc. Pay attention to the cultivation of students' professional qualities. In addition to the cultivation of professional skills, it is also necessary to pay attention to the formation of behavior standards and safety awareness, and strengthen the cultivation of students' professional abilities such as independence, responsibility, and professionalism. Invite the elite of the cooperative enterprises to enter the campus, preach the corporate culture and entrepreneurial spirit, and impart professional skills. Lead the students into the enterprise, operate in the post in a real working environment, practice rotation, and strengthen professional awareness.

### **4.3 School Education Focuses on the Cultivation of Students' Comprehensive Ability**

Pay attention to the cultivation of students' courage and self-confidence, the cultivation of students' analytical ability, encourage students to have their own ideas, can effectively express their own ideas, and take pride in persevering in persuading their opponents. Pay attention to the cultivation of students' teamwork and communication skills. During the course of teaching, let students work together in small groups to complete work tasks, and report and defend. Pay attention to the cultivation of innovative consciousness, promote question-based teaching, and open-ended questioning to guide and inspire students to think positively. In the classroom, students are often allowed to adopt small team learning mode, lightning learning mode or brainstorming learning mode. Teachers guide students to discuss, debate, or answer questions. In the long run, being good at thinking and expressing, the quality of perseverance, communication, teamwork, and the cultivation of innovation awareness can make students quickly grow into a professional.

## **Acknowledgement**

This paper is supported by the project: Major Teaching Reform Project of Wenzhou Vocational and Technical College (WZYZD1602).

## **References**

- [1] Yao, C. (2012). The Enlightenment of German Dual-Sector Occupational Education Model for China's Vocational School. In *Future Computer, Communication, Control and Automation* (pp. 337-343). Springer Berlin Heidelberg.

- [2] Chen, J. (2019, April). Enlightenment of German Education of Dual System on Foreign Language Education in China's Applied Universities. In *3rd International Conference on Culture, Education and Economic Development of Modern Society (ICCESE 2019)* (pp. 1439-1442). Atlantis Press.
- [3] Sun, Y. (2015, December). The Mode of German Vocational education and the Enlightenment. In *2015 International Conference on Social Science and Higher Education* (pp. 13-16). Atlantis Press.
- [4] Winch, C. (2006). Georg Kerschensteiner—founding the dual system in Germany. *Oxford review of education*, 32(3), 381-396.
- [5] Kutscha, G. (1996). The Dual System of Vocational Education in the Federal Republic of Germany: An Obsolescent Model?. *European Education*, 28(2), 49-62.
- [6] Lotze, C. H. (1994). *The German dual system: Formal policy, theory and practice, and legitimation. What the United States can learn from an apprenticeship model in context* (Doctoral dissertation, University of Virginia).
- [7] Zhang, P. (2018, July). The Vicissitude of German Vocational Education Law and Its Enlightenment to China. In *2018 International Seminar on Education Research and Social Science (ISERSS 2018)* (pp. 293-295). Atlantis Press.

## Author Profile



**Lingjiao Dong** received the B.S. degrees in Control Theory and Control Engineering from Zhengzhou University, China, in 2001. She is currently an Associate Professor with Department of Electrical and Electronic Engineering, Wenzhou Polytechnic. Her research interest covers control theory and engineering, intelligent automation, educational teaching theory research.

**Disclaimer/Publisher's Note:** The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of Woody International Publish Limited and/or the editor(s). Woody International Publish Limited and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.