

The Enlightenment of German Dual System Education Mode to the Optimization of Higher Vocational Curriculum Development in China

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Abstract: The dual system education model is a unique vocational education model in Germany. Its characteristics are the school-enterprise cooperation model, the separation of teaching and examination, and the construction of teaching staff, which have great enlightenment to the development of higher vocational courses in China. At present, there are some problems in the development of higher vocational curriculum in China, such as unprofessional curriculum writers, insufficient implementation of school-based curriculum, and weak teaching staff of vocational education. The advantages of German dual system education model are used to solve the problems. China can adopt the strategy of promoting the participation of multiple subjects in curriculum development, strengthening the construction of vocational education teachers, optimizing curriculum implementation and using curriculum evaluation methods to develop unique higher vocational courses, and promote the development of China's vocational education to a new level.

Keywords: dual system; higher vocational education; curriculum development

1. Introduction

The "dual system" vocational education model refers to a vocational education system that implements school-enterprise cooperation in Germany, and it is also a successful vocational education model. The so-called "dual" means that one is a vocational school, and the other is an enterprise unit.[1] That is to say, higher vocational students should not only learn theoretical knowledge in higher vocational schools, but also learn practical operation skills in vocational schools. The main purpose of higher vocational students in the enterprise is to accept the relevant vocational skills and professional knowledge in the first line of practice, and cultivate students' practical operation skills. The main function of higher vocational students in higher vocational colleges is to systematically accept professional theoretical knowledge and cultural basic knowledge. The dual system of vocational education has always been the focus of Chinese vocational education researchers, and has a great impact on the current vocational education mode in China. How to develop the vocational education curriculum based on the "dual system" teaching concept has become the key to realize the localization of the dual system vocational education model.

2. The characteristics of "dual system" vocational education

2.1 Clear training objectives

The dual system education has a clear training goal. Its main purpose is to train front-line technical personnel with both professional basic knowledge and practical operation skills. This kind of training goal is based on the students' professional ability. Students need to receive professional skills training, rather than some extensive subject knowledge. Therefore, students' skills training content is more. First of all, it is the study of basic theoretical knowledge and basic skills operation. These trainings are mainly completed in schools; secondly, it is the training of social ability, mainly the ability to communicate with others and adapt to the social situation and working environment; finally, it is the training of practical ability, which is mainly to carry out practical operation in the enterprise factory, apply the theoretical knowledge and basic skills learned by the school to practice, absorb and digest them in practice, so as to improve their operational ability.

2.2 Strong legal safeguards

In Germany, the "dual system" vocational education system has a strong legal protection for vocational education, which is subject to the dual norms and protection of the federal government and state laws. Using strong laws to regulate and manage Germany's dual vocational education not only makes vocational education legal, but also allows it to continue to develop, cultivate technical and skilled talents suitable for domestic enterprises, and make greater contributions to the construction of the country.

2.3 School-enterprise integration

The combination of school and enterprise is the characteristic of 'dual system' vocational education. Therefore, the participation of enterprises is particularly important. In Germany, the wide participation of enterprises is one of the most important driving forces in the progress of higher vocational education. German enterprises have regarded vocational education as their own accompanying 'enterprise behavior' [2], and actively cooperate with the education model of secondary vocational schools, because most German enterprises have vocational skills training bases and professional training personnel. The school-enterprise cooperation mode makes the school more clearly know what kind of talents the enterprise needs, and what kind of students the school needs to cultivate to meet the market demand. In addition, enterprises can inject a lot of money into schools, provide financial support and practical teaching bases for schools, and schools can train professional talents for enterprises, so that the two sides can achieve a mutually beneficial and win-win situation.

2.4 Separation of teaching and examination

The main departments responsible for vocational examinations are guilds, for example, examination committees composed of similar units and autonomous institutions in the economic community. The types of vocational examination include final examination and intermediate examination. The intermediate examination is mainly to check the implementation of the enterprise training plan through the students' training results. Only through the intermediate examination can they participate in the final examination. The examination content includes practical operation skills assessment and theoretical knowledge examination [3]. Both examinations are carried out under the unified requirements and time of the whole country. The effective implementation of the separation system of teaching and examination can guarantee the teaching quality of vocational education.

2.5 Professional vocational education faculty building

In Germany, the selection of personnel engaged in vocational education is very strict. It has a set of special rules and regulations to require teachers engaged in vocational education. For example, the assessment system for teachers' academic qualifications, qualifications, majors, teachers' own training, morality, skills, etc. is relatively strict. In addition, it will pay special attention to the treatment of teachers and provide a strong guarantee for teachers' lives. If you want to become a teacher in a vocational school, you need to pass two assessments. First of all, you need to obtain the first national examination diploma by virtue of your own ability, and then go to the corresponding vocational school for trial teaching for two years. After passing the trial teaching assessment, they will participate in the second national examination. If the teacher passes the second examination, he can become a teacher in the vocational school. In addition, the practical guidance teachers in vocational schools will choose from the vocational management department and the production line workshop, because they have strong practical operation ability. They know the most about the relevant information of the frontier of technology development. The most important thing is that they are more aware of the needs of production enterprises for the ability of vocational school students. After entering the vocational school, such practical guidance teachers need to participate in relevant educational theory training activities and carry out strict assessment. If such teachers can pass this strict assessment, they can carry out teaching work and guide students to learn. Teachers who pass the assessment and ensure the quality of teaching in vocational schools can be called "double-qualified teachers." [3].

3. The shortcomings of curriculum development in China's higher vocational education

3.1 Curriculum development is led by the government, and the participants of curriculum writing lack the subject consciousness.

At present, the curriculum development of China's higher vocational education is led by the government, and the participants in the curriculum development are lack of subject consciousness. On the contrary, experts, scholars and employees who have opinions on vocational education have not actively participated in the curriculum preparation. This top-down curriculum development method makes the developed curriculum content not well fit the social development, does not meet the requirements of the employer for applied talents, and leads to the graduates of higher vocational schools can not be well employed. In addition, because modern vocational education has the characteristics of adapting to the needs, connecting with each other, multiple interchanges, facing everyone, facing the society, and lifelong learning, it requires higher vocational colleges to adhere to open education, improve and improve the vertical and higher vocational, undergraduate and postgraduate levels of academic education, horizontal and general education, adult education. The academic education system that connects education, realizes the interconnection of vocational education and general education, adult education,

and vocational training, and meets the diverse needs of students' growth and development.

3.2 Lack of awareness of the importance of the curriculum, school-based curriculum implementation is not strong

In China, most people think that receiving higher education after high school graduation is the main formal way to study, which leads to the neglect of secondary vocational education. In addition, some school leaders and teachers have insufficient understanding and development of the curriculum of secondary vocational education. The textbooks used are uniformly compiled by relevant personnel organized by relevant departments. For school-based curriculum, due to the lack of special development departments, professionals, implementation procedures, and curriculum evaluation rules, the development of school-based curriculum is not enough.

3.3 The imbalance between the quality and quantity of vocational education teachers

The development of the curriculum requires the participation of education experts and the majority of front-line teachers. However, China's secondary vocational education is not valued because of its development, which leads to the imbalance between the quality and quantity of vocational education teachers. This will reduce the practical experience of front-line teachers in the development of higher vocational courses, resulting in the development of courses that may not be in line with the actual teaching situation.

4. Curriculum development of higher vocational education based on "dual system" teaching mode

The "dual system" vocational education model requires that the cultivation of students needs to be carried out in two parts. First, the study of cultural knowledge and basic vocational skills in schools; second, the training operation in the enterprise factory, so the curriculum development of higher vocational education is particularly important. Higher vocational education is different from ordinary higher education. In order to develop and implement higher vocational courses, teachers need to master reasonable teaching methods. According to students' learning characteristics, physical and mental development rules and teaching characteristics, teachers need to analyze the ability tendency of higher vocational students and then implement teaching. Throughout the reform and development of vocational education in various parts of the country, curriculum reform is the breakthrough point, and curriculum development is the concrete embodiment of curriculum reform. In order to do a good job in the development of higher vocational education curriculum, we must focus on solving the following outstanding problems.

First, what is the curriculum. The course has the following meanings: (1) Runway, that is, the path of students' continuous progress around the goal; (2) Selection, that is, students can choose different 'paths' or ways according to their own growth needs; (3) Leading, set a clear goal, and guide students to move forward around the goal. The main purpose of understanding the connotation of curriculum is to find out the endogenous principle and development law of 'curriculum', and to find scientific basis for the curriculum development of higher vocational education.

Second, clarify the scope and direction of curriculum reform. The purpose of curriculum development is to provide each student with the educational values that are suitable for their needs. The concept should be characterized by characteristics, diversity, choice, and suitability. Clarify the scope and direction of curriculum reform, grasp the update and adjustment of curriculum objectives, curriculum setting, curriculum standards, teaching concepts, teaching methods and evaluation methods.

Thirdly, using the research results of modern education theory to guide the curriculum development of higher vocational education. Practice shows that inclusive education, selective education and hierarchical education are important theories to guide teaching and curriculum reform. Adhering to the idea of inclusive education is to adhere to education without discrimination, equality for all, and comprehensive education for all. Vocational education is for everyone. We must pay attention to all people who need vocational education, and also pay attention to the education of people with special needs. Once the school finds that some students have special needs, teachers and schools should provide help for such students as much as possible. In addition, the curriculum development of higher vocational education should choose to meet the personal development of students. In the course teaching of higher vocational education, we should adhere to the concept of hierarchical education, which is to require curriculum development to respect the individual differences of students and reflect the principle of teaching students in accordance with their aptitude. This is an effective countermeasure to adapt to the current situation of career in vocational schools.

According to the concept of "dual system" vocational education mode, the development of higher vocational education

curriculum in China should not only clarify the direction of vocational education curriculum reform, but also use the research results of modern education theory to guide the development of higher vocational curriculum. Therefore, work needs to be carried out from the following aspects.

First, promote the participation of multiple subjects in curriculum development.

The curriculum development of higher vocational education should organize and guide the participation of multiple subjects, give full play to the role of enterprises, vocational school teachers and higher vocational students, and make them participate in the process of curriculum design and curriculum evaluation. Reform the way of curriculum development by the top-level design of the government, change the way of curriculum generation, build a bottom-up way of curriculum generation, enhance the depth of school-enterprise cooperation, and give full play to the important role of enterprises in the development of curriculum content. With the participation of multiple subjects, we jointly formulate curriculum standards in line with higher vocational education. The curriculum standard of higher vocational education is different from that of ordinary high school. It includes the outline of school teaching plan, general curriculum, professional curriculum and school practice curriculum. It also includes enterprise training regulations, namely, training professional name, training period, training content, training outline and graduation examination requirements. The goal of the course should focus on the cultivation of students' knowledge, technology and attitude required for professional activities, so as to promote students' all-round development and sustainable development. The curriculum goal based on the dual system is to pave the way for the cultivation of high-quality front-line technical personnel with comprehensive ability, and then develop the curriculum around the established curriculum standards. The curriculum should cultivate talents with both professional spirit and professional skills according to the requirements. The core of curriculum development is the selection and compilation of curriculum content. In the selection of course content, we should construct the course from three aspects: professional knowledge, professional skills and key abilities around vocational education activities. In addition, the curriculum content should be combined with social labor practice, enterprise demand for talents and vocational qualification assessment requirements, highlighting the practicality and applicability of higher vocational courses.

Second, strengthen the construction of teaching staff in secondary vocational education

Teachers are not only the participants of curriculum development, but also the implementers of curriculum promotion. A good curriculum not only needs the careful compilation of textbook writers, but also needs the promotion of teaching practice of front-line teachers. In order to strengthen the construction of vocational education teachers, we can take the way of paying equal attention to pre-service teacher education and assessment, and regular post-service training is not relaxed. This can cultivate more professional secondary vocational education teachers, improve their teaching level, help promote the development of higher vocational education, and help improve the development of higher vocational curriculum.

Third, optimize the curriculum implementation and curriculum evaluation methods.

The curriculum implementation of higher vocational education under the "dual system" vocational education mode in Germany should adhere to the main direction of "wide foundation and flexible module", based on the work process orientation, actively adopt project, task-driven teaching, case teaching, work process-oriented teaching and other methods, and run through the combination of work and study in vocational education to cultivate students' ability to analyze problems, solve problems and practical work [5]. In terms of students' learning methods on the course, taking the mechanical manufacturing specialty as an example, when doing course tasks, we ask students to follow the following rules. First of all, it is economically and technically meaningful to understand the role of small parts in assembling workpieces, what materials the parts are composed of, how to correctly select the processing speed when operating the machine tool, what information is included in the drawings, and how to reasonably arrange the production sequence. Secondly, students are required to always process information independently and record the relevant information in the whole work process in written form with the help of corresponding work skills. It is also important for the group members to think and communicate in the working process. Reasonable arrangement of the processing technology can ensure the production of each part. Finally, be good at observing, actively find problems, treat problems frankly and seriously, learn from problems, and cultivate comprehensive ability to solve problems.

In terms of curriculum evaluation, the examination standards implemented by China's vocational education for higher vocational students cannot guarantee students' employability and teachers' teaching level. If we can learn from the curriculum evaluation model of the German 'dual system' vocational education model, combined with the current situation of China's vocational education, so that higher vocational students can not only master the basic theoretical knowledge, but also master the practical operation skills, improve their comprehensive quality [4], take the employment and good employment of higher vocational students as the basic value orientation, and constantly improve the employment and entrepreneurship ability and sustainable development ability of higher vocational students. Then through the relevant industry associations to organize

the corresponding theoretical examination and practical operation skills assessment, the students who pass the assessment are allowed to graduate. In this way, the teaching quality and school running level of vocational schools can be improved, and the development of China's manufacturing industry will enter a new stage.

5. Conclusion

Germany's "dual system" education model provides a pillar for the development of its vocational education, lays a solid foundation for its economic development, and paves the way for its enterprise development. Therefore, studying the characteristics of this model and drawing on its advantages can provide some theoretical basis and practical guidance for the development of higher vocational education curriculum in China, improve the shortcomings of China's vocational education, and put forward strategies in line with the development of China's vocational education, so as to promote the development of China's vocational education.

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