Standardization Research on the Industry-learning Integration in Vocational Education

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Abstract: The “industry-learning” integration，school-enterprise cooperation is the focus of the reform and development of Higher Vocational Education in China, and is the fundamental route to cultivate applied talents. There are many successful cases in the world. At present, Higher Vocational Colleges in China are also carrying out school-enterprise cooperation to varying degrees and have achieved remarkable results. Through the study of relevant advanced learning modes at home and abroad, and through learning practice, a school-enterprise cooperation mode conforming to the national conditions and learning rules has been explored for art design majors, and the results have been summarized through standardization and institutionalization.

1. Research Background of the Standardization of “Industry-learning” Integration

In the *Notice on the Implementation Plan of the National Vocational Education Reform* issued by the State Council, it was pointed out that "there are still some problems in China's vocational education, such as “the imperfect system construction, the need to strengthen the construction of vocational skills training bases, the imperfect system standards, the lack of motivation for enterprises to participate in running schools, and the need to improve the supporting policies conducive to the growth of skilled personnel, and uneven quality of school running and personnel training, etc.” It was emphasized to develop a sound education mechanism of " morality and skills, and work-study combination ", "deepening the industry-teaching integration, school-enterprise cooperation", focusing on promoting school-enterprise cooperation in an all-round way so as to strengthen in-depth cooperation.

The school-enterprise cooperative vocational education system has been very mature in developed countries and has made a lot of achievements. Many countries have successfully developed a diversified school-enterprise cooperative education model suitable for their own characteristics. The main modes are as follows: German "dual system", "American "cooperative education", "work-study alternation" in Britain, and Japanese " industry-learning combination " and so on. Among them, currently, the German dual system is internationally recognized as a good example of school-enterprise cooperation in training talents.

School-enterprise cooperation is the focus of the reform and development of Higher Vocational Education in China, and the fundamental route to cultivate applied talents. At present, Higher Vocational Colleges in China are carrying out school-enterprise cooperation in varying degrees and have achieved remarkable results. At the same time, many problems have been found in the process. A tentative study on school-enterprise cooperation and the industry-learning combination has been conducted to actively explore the "order-based" training mode and implement the "studio" teaching mode under the background of school-enterprise cooperation. It is hoped that in response to the national education reform strategy, through the study of relevant advanced teaching modes at home and abroad, and through teaching practice, a school-enterprise cooperation mode conforming to the national conditions and teaching laws for art design majors will be explored, and the results will be summarized through standardization and institutionalization.

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2. Prerequisite Conditions for Establishing the Normalization of School-enterprise Cooperation Based on the Industry-learning Integration

The premise of the standardization research of the industry- learning integration is to clarify the purpose of school-enterprise cooperation: industry, enterprise, school and students are mutually beneficial and win-win in school-enterprise cooperation, which is the basis of school-enterprise cooperation. Only by clarifying the demands of all parties and seeking a balance in order to meet the interests of all parties, can we achieve the long-term cooperation. Without this balance, cooperation will not go on.

Talent training cooperation in the industry- learning integration is relatively easy, while training students, only by combining students' practical ability with the needs of enterprises can the school cultivate talents who can be integrated into enterprises' jobs as soon as possible. In the process of industry-learning integration, it is very demanding for schools to solve technical problems, technological innovation and technological transformation for enterprises. Normally, schools cannot lead the industry. Therefore, most of the school-enterprise cooperation is mainly based on personnel training cooperation, industrial cooperation is the future trend, and its proportion is also growing.

The industry-learning integration strategy is a strategic decision made by all specialties to implement independent innovation strategy and build innovative specialty. In order to implement the idea of industry-learning integration, strive to improve their own teaching system, and lead the the social design industry with real projects. "School-enterprise cooperation platform" is an important way to enhance the ability of professional independent innovation. It shortens the gap between specialty and enterprise, combines theory with practice, helps to promote technological progress, and is also conducive to the growth and development of specialty. It is an important measure to promote the optimization and upgrading of professional talent training and to build professional connotation.

3. Standardized Access System of All Parties in the Industry-learning Integration

All parties in school-enterprise cooperation have rights and obligations. It is needed to develop enterprise-led school-running mode as the current leading mode of school-enterprise cooperation, establish a leading platform for school-enterprise cooperation studios. And a team that can operate independently should be supported by several front-line enterprises to lead students to the society. Enterprise is the student practice base, the provider of real studio projects, and the source of part-time teachers. At the same time, Studio provides high-quality students for enterprises, studio can help enterprises solve low-end workload services. Based on the characteristics of vocational education in interior art design industry and advanced international vocational education concepts, we jointly explore the school-enterprise cooperation path for various professional developments in line with China's national conditions. However, many achievements in school-enterprise cooperation cannot be summarized, many processes have no basis for assessment, and successful experiences cannot be popularized and applied. Therefore, it is necessary to standardize and institutionalize the practice process of school-enterprise cooperation.

3.1 Corresponding policy support and regulatory systems provided by government and industry. The government and industry of advanced countries play a very important role in the industry-learning integration and school-enterprise cooperation. On the one hand, the key to affecting school-enterprise cooperation is policy. At present, many innovations cannot be implemented, which are inconsistent with the policies of the government and industry. Universities belong to public welfare institutions, and their nature is totally different that of enterprises. There are many protection policies among them. These policies protect universities to a certain extent, and at the same time, many restrictions have been set up among them; on the other hand, problems in the process of school-enterprise cooperation need government’s coordination and promotion to regulate the behavior sof all parties through practical laws, regulations or policies, so as to create external conditions and social environment for school-enterprise cooperation. Nowadays, the government attaches great importance to the industry-learning integration and school-enterprise

cooperation. Some relevant policies have come out, and recently university teachers have been allowed to take part-time jobs in enterprises.

3.2 Access requirements for schools. As the main body of school-enterprise cooperation, school is the key to the operation of school-enterprise cooperation. Now there is a common phenomenon in school-enterprise cooperation enterprises, that is, enterprise designers have a misunderstanding of the school. They think that full-time teachers in school just teach based on the texts, and their practical experience cannot be compared with the designers, so they have not made their great efforts in cooperation. Then schools in school-enterprise cooperation must meet certain conditions, so that schools can equally have dialogue with relevant design enterprises. It is necessary to strengthen the cooperation and coordination with enterprises, and timely feedback new technologies, new materials and new technologies in the industry to the practice base. Therefore, Without the support of mature conditions, school-enterprise cooperation cannot be done well, and certain conditions must be met in actual operation as follows.

(1) With a certain scale of double-qualified teachers, and with the research and development capabilities to complete a number of horizontal projects.

Teachers are the key to school-enterprise cooperation. The industry-learning integration in schools depends mainly on the composition of teachers. If teachers have no practical experience, the specialty will be disconnected with society, and there is no way to the industry-learning integration. Especially for applied majors, most teachers must come from enterprises and practice regularly in enterprises, which should be the basic requirement. Vocational colleges should not only teach, but also lead the technological innovation in the industry. Teachers who cannot reach the standard of common employees in companies will not meet the requirements.

The school-enterprise cooperation platform is a small-scale company. The equipment of teachers in the school should be according to the amount of class hours and the number of horizontal projects. It should keep the scale that can operate independently without the enterprise. At the same time, just like the design company, there are different positions, such as the head of the studio is equivalent to the design supervisor, the general professional teachers in the studio at least play the role of the designers, the teaching assistant is equivalent to the general designer who can go to and get off work regularly, leading students to do the projects , they should be divided into several teams in different directions.

(2) Equipped with the necessary field and equipment for the school studios. The school should have the required space for the studio, not the traditional classroom, but the same as the design companies, each person has a job with clear positions, and equipped with discussion area, report area and so on.

(3) with the corresponding management conditions. Studio management regulations should be double standards of teaching and industry, including transportation control system, reward and punishment system and project operation system. Teachers and students' management system should be separated to ensure the long-term stable operation of the studio.

(4) Other training places on campus. The school has training places for professional basic courses and core courses, mainly to assist students’ hands-on production and researching experiments, involving management personnel and systems such as operation, safety and maintenance.

3.3 Access systems for enterprises. As another main body, the enterprise’s effort should be mainly put in the operation of enterprises, whether enterprise is suitable for school-enterprise cooperation depends on its status, so it is not possible for any enterprise to conduct school-enterprise cooperation. The specific requirements mainly depend on the needs of school-enterprise cooperation studios. For schools, the role of enterprise is to participate in real teaching, solve students’ employment, jointly study and develop professional technologies, provide horizontal projects. The larger the enterprise is in scale, the more needs it will have. They can cooperate one-to-one. It is more reasonable for a school to cooperate with many enterprises because the situation of each major is different. For an interior design company, it is impossible even for a

large company to digest students in the same class every year and to support the whole studio. So, the conditions for school-enterprise cooperation are as follows:

(1) With a certain scale of posts for internship and relatively fixed number of graduates enrolled each year. If the enterprise cannot provide internship posts or recruit graduates for employment, it is meaningless from the perspective of teaching student, then it depends on mutual technology research and development or horizontal projects.

(2) Are there any regular lectures in the school? In the school-enterprise cooperation, it is quite common for enterprises to send staff to school to teach students, but later it is found that the effect was not satisfactory. On one hand, the staff of enterprises have no teaching experience, and it is difficult to integrate themselves into the classroom; on the other hand, the staff of enterprises often miss school classes because of their workload. In practice, it is relatively easy to operate courses with lecture nature.

(3) Are there any horizontal project completed in the studio? Another important aspect of school-enterprise cooperation is "production". Horizontal projects can be operated through the platform of studio. General and high-end R&D projects can also be conducted depending on the overall level of the school.

4. Two-way Selection System in the Industry-learning Integration

School-enterprise cooperation platform is a common platform for enterprises, schools and students to promote each other. Competition is an important driving force for the successful development of the platform. Enterprises can get excellent students and new technologies. Schools can transform technology into enterprises to solve the problem of students' employment. Students can learn the best design from schools and businesses. On this platform, students can directly participate in the pre-development, scheme design, scheme deepening, construction drawing design and post-site service of the project, which lays a professional foundation for entering society in the future. In order to embody fairness and rationality and stimulate competition consciousness, the two-way selection system is implemented in many places in school-enterprise cooperation.

4.1 Two-way selection system for school-enterprise cooperation. Both sides of school-enterprise cooperation must have their own demands. If the other side cannot satisfy their own demands, then there is no basis for cooperation, and it is difficult to achieve good results. Therefore, we must implement a two-way selection system. As a studio cooperates with multi-enterprises, which can be classified according to different appeals, with strategic partners and ordinary partners.

4.2 A two-way selection system implemented after students entering the studio. A major will have different studios, each studio may be different directions, or the same direction may have different teachers, cooperative enterprises will be different. Students have the right to select independently, but sometimes it is needed to eliminate students when the number of studios exceeds; there is competition among students, thus creating a virtuous competitive atmosphere..

4.3 Two-way selection system for students and enterprises. It must be a two-way selection for students to go to enterprises for internship and employment. In the long run, enterprises need to select students to train so as to enable them to stay in the enterprises. Students can also select a good enterprise for their internship and work. Both sides follow the law of talent market.

5. Establishment of Standardized Quality Control System of "Industry-learning" Integration

The key to the success of school-enterprise cooperation lies in the improvement of quality control system. How to control the results of cooperation, especially by the non-subordinate cooperative subjects of enterprises and schools, must restrict all parties through standardized system monitoring, contract and other forms, and establish a comprehensive evaluation platform for teaching teachers, follow-up course teachers, industry and students. An evaluation docking system should be established to evaluate docking industry and the docking enterprise employing standards, thereby completely eliminating the self-entertainment professional ability evaluation model that was

previously evaluated by the full-time and part-time teachers alone. The teaching results are open, which evaluates whether they have achieved the intended goals, existing problems, and how to improve its effectiveness.

6. Conclusions

The implementation of the “industry-learning” strategy involves the deep-seated reform of higher education and the adjustment and perfection of professional school-running ideas. These are the fundamental and strategic core issues of modern vocational education. Due to the inadequate mastery of the needs of industry and enterprises, or the disconnection from the market, the courses and contents learnt by students are backward and biased, and the students' work is not suitable for the market demand, resulting in poor employment situation. By strengthening the standardization of “industry-learning” combination, timely grasping the technology and talent needs of the market and enterprises, and following the changes of the market, can we allocate the superior scientific and technological resources to independent innovation R&D projects with important economic and social benefits.

School-enterprise cooperation is the key to the organic combination of industry and learning, and it is also the higher requirement of current education. While learning advanced foreign teaching concepts, we explore the cooperative teaching mode of school-enterprise in line with China's actual situation, and sum up a set of innovative teaching mode of“industry-learning” combination through standardized means, cultivate talents in line with market demands, break the backward educational thought, improve the professional level of the school, thereby leading the development of industry. All kinds of standardized school-enterprise cooperation experience need to be constantly optimized and revised, and ultimately form the industry- learning cooperation which can meet the needs of social development.

References

[1] Yang Yunxin, Luo Pinpin, Chen Peng. Innovative Research on the Deep Integration Mechanism of Industry and Education in Vocational Education [J]. Vocational and Technical Education, 2014,35(04):39-43.

[2] Lan Xiaoyun. Discussion on the Validity of School-Enterprise Cooperation Policies in Vocational Education in China [J]. Modern Educational Management, 2012(06):72-74.

[3] Long Deyi.Study on the Training Model of Vocational Education Talents with Work-Learning Integration[J]. Journal of Tianjin Vocational College, 2011,13(02):3-21.

[4] Wu Shaofen. Thoughts on the in-depth Cooperation between Schools and Enterprises in Training Outstanding Engineering Talents [J].Modern University Education, 2011(06):100-104.

[5] Yin Hong, Mi Jing and Lu Yueping. A review of the Research on School-enterprise Cooperation in Higher Vocational Colleges in China [J].Vocational Education Forum, 2011(12):11-17.

[6] Yan Chuhua, Wang Zhanghua and Deng Qingyun. Government-led, School Main Body, Enterprise Initiative——Thinking on the Construction of School-Enterprise Cooperation Guarantee Mechanism [J]. China Higher Education Research, 2011(04):80-82.