

Research on the Implementation Model of "1 + X Certificate" in Higher Vocational Colleges with "Three Levels + Two Pillars"

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ABSTRACT. This paper analyzes the research status of "1 + X certificate" in China, and finds out the key problems in the implementation process of "1 + X certificate". For example, the "1 + X certificate" system lacks top-level design basis, relevant supporting systems are not perfect, there is a lack of unified certification institutions and national level certification standard system, the "three education" foundation of vocational colleges and training evaluation organizations is relatively weak, and the specialty construction and curriculum system construction of pilot colleges need to be improved. In order to do a good job in the pilot work of the system and realize the reform and development of vocational education and training system, this paper takes schools, professional construction and curriculum system as three levels, takes the relevant laws and regulations of vocational education, policies and training evaluation organization vocational ability standards as two pillars, constructs the "1 + X certificate" implementation model of "three levels + two pillars", and improves the research on the implementation path of "1 + X certificate" in higher vocational colleges from different perspectives.

KEYWORDS: Higher Vocational Colleges, "1 + X Certificate", Model

1. Status of Implementation of "1 + X Certificate"

In 2019, the State Council issued the "national vocational education reform implementation plan" (GF (2019) No. 4), which clearly proposed that starting from 2019, the system of diploma certificate + several vocational skill level certificates should be launched in Vocational Colleges and application-oriented universities, referred to as "1 + X certificate" system for short. "1" refers to diploma certificate, "X" refers to several vocational skill level certificates. Starting from 2019, the state has approved three batches of pilot projects. The number of the first batch of six vocational skill level certificates and pilot institutions are 320 institutions of building information model (BIM), 422 institutions of Web front-end development,

355 institutions of logistics management, 231 institutions of elderly care, 465 institutions of automobile application and maintenance, and 195 institutions of intelligent new energy vehicles. The number of 10 vocational skill certificates and institutions launched in the second batch is 375 for e-commerce data analysis, 570 for online store operation and promotion, 397 for industrial robot operation and operation, 325 for industrial robot application programming, 155 for special welding technology, 468 for intelligent finance and taxation, 241 for mother-to-child care, 303 for sensor network application development, 156 for the disabled elderly care, and 288 for cloud computing platform operation and development. The third batch of 77 "1 + X certificate" vocational skill level standards have also been published.

2. Key Problems in the Implementation of "1 + X Certificate".

Although the "1 + X certificate" system is of great value to the reform and development of vocational education and training system, there are still some problems in China's vocational education and training system, which are gradually becoming an obstacle to the implementation of the "1 + X certificate" system.

2.1 The "1 + X Certificate" System Lacks Top-level Design Basis, and the Relevant Supporting System is Not Perfect

Although "Vocational Education Article 20" points out the development direction for the implementation of the "1 + X certificate" system, the Ministry of Education and other four departments jointly issued the "On the pilot scheme of implementing the system of 'diploma certificate + several vocational skill certificates' in colleges and universities" and also stipulates the specific content of the pilot work, the "1 + X certificate" system is not mature enough, lack of top-level design of the system, and the overall framework for the implementation of the system is not perfect. Firstly, the overall planning and macro guidance for the 1 + X certificate system is not perfect^[1], secondly, the "1 + X certificate" system lacks a long-term and systematic development plan; finally, the pilot institutions of the 1 + X certificate system lack regular and quantitative assessment standards. The state lacks a quantitative assessment standard for the achievements of the pilot institutions, which can easily eliminate the enthusiasm of the pilot institutions to implement the 1 + X certificate system. In addition, the state has not yet established an incentive mechanism to link funds and pilot results. In the long run, vocational colleges are prone to burnout, and the long-term implementation of the "1 + X certificate" system will be greatly hindered. In the face of this situation, the relevant departments of the current "1 + X certificate" system need to clarify the responsibility subjects of the system as soon as possible, improve the relevant system design, and lay a good foundation for the implementation of the "1 + X certificate" system.

2.2 The "1 + X Certificate" System Lacks a Unified Certification Body and a National Certification Standard System

With the deepening of vocational education reform and the gradual implementation of "1 + X certificate" system, more and more social training evaluation organizations participate in the formulation of "1 + X certificate" standard. Training and evaluation organization is the third-party organization responsible for vocational training and evaluation, but the service quality provided by different training and evaluation organizations is uneven, and there is a lack of a unified selection standard to identify the training and evaluation organization, which makes it difficult for training and evaluation organizations to play an important role in the implementation of "1 + X certificate" system^[2]. At the same time, the "1 + X certificate" system lacks a unified certification body. The educational certificate and vocational skill level certificate are managed by the education department and the human resources and social security department respectively. The multiple management results in unclear rights and responsibilities in all aspects, and there are some difficulties in the accumulation and conversion of credits, meanwhile, there is still a lack of vocational education certification standard system at the national level in China, and the related standards such as curriculum quality, teaching quality, laboratory construction and enterprise practice are not perfect.

2.3 The "Three Education" Foundation of Vocational Colleges and Training Evaluation Organizations is Relatively Weak, Which Restricts the Implementation of the "1 + X Certificate" System

The "three teaching" basis of vocational colleges and training evaluation organizations refers to teaching materials, teaching methods and teachers. Due to the long publishing cycle of textbooks, the content of vocational education textbooks is updated slowly, which cannot meet the learning needs of students. At present, most of the teachers in higher vocational colleges have sufficient theoretical knowledge but weak practical ability. The number of "double qualification" teachers is insufficient, and the choice of teaching mode is relatively traditional. Teachers are in a dominant position in the classroom, students listen passively, students' overall learning efficiency is low, and their skills are not fully mastered, which makes it difficult to adapt to the promotion of "1 + X certificate" system.

2.4 The Specialty Construction and Curriculum System Construction of Pilot Colleges Need to Be Improved

After the implementation of "1 + X certificate", the pilot colleges should have a process of modifying and improving the professional construction. This process should be carried out gradually with the implementation of "1 + X certificate", and the corresponding curriculum standards and curriculum system should be modified in time. These work cannot be completed in a short period of time, often need to go through two to three years of continuous revision, in order to achieve more ideal

results. At present, there is a lack of relevant research on the smooth implementation of "1 + X certificate". If the complete implementation of "1 + X certificate" is compared to a pyramid, the current research mainly focuses on the top and middle layers of the pyramid, while the bottom layer of the pyramid is mainly Majors and courses, because the final implementation of "1 + X certificate" must be implemented in the professional training program and curriculum system.

3. Implementation Strategy of "1 + X Certificate" Model of "Three Levels + Two Pillars"

In view of the related problems in the implementation process of "1 + X certificate", the implementation model of "1 + X certificate" with "three levels + two pillars" is constructed, which takes the school, professional construction and curriculum system as three levels, and the national regulations, policies and training evaluation standards of vocational education as two pillars.

3.1 Take the Relevant National Laws and Regulations as the Guarantee to Clarify the Relevant Responsibilities of Various Departments at All Levels

The "20 articles on Vocational Education" defines the division of responsibilities between the Ministry of human resources and social security and the Ministry of education. "Within the scope of responsibilities, the administrative department of human resources and social security of the State Council and the administrative department of education are respectively responsible for the management, supervision and assessment of the implementation of vocational skill level certificates outside and inside the college. The administrative department of human resources and social security of the State Council organizes the formulation of vocational standards, and the administrative department of education of the State Council takes the lead in organizing the development of teaching and other relevant standards in accordance with the vocational standards." ^[3] And make it clear that "all kinds of vocational skill level certificates have the same effect, and the holders of certificates enjoy the same treatment." The two departments are also responsible for establishing the supervision and management system of vocational skill level certificate training evaluation, as well as the selection and related management of vocational education training evaluation organizations. Accordingly, provincial human resources and social security administrative departments and education administrative departments should do a good job within their respective responsibilities. The provincial education administrative department guides the Vocational Colleges under its jurisdiction to carry out the reform of "1 + X certificate" system, and coordinates the new situation and new problems in the reform process ^[4].

3.2 Based on the Vocational Skill Level Standard of the Training Evaluation Organization, Assist the Pilot Colleges in the Implementation of "1 + X Certificate" Training

The training and evaluation organization undertakes the development and construction of "X" certificate and standard, formulates vocational skill level certificate, develops teaching materials and teaching resources, which is a crucial link to ensure the smooth implementation of "1 + X" certificate. Just after the establishment of the system, the social interests represented by the training and evaluation organizations are far greater than their own interests. The training and evaluation organizations should have the responsibility of the state and treat their responsibilities and missions from the perspective of strategic development. The development of "X" certificate should not only suit the remedy to the case for the existing problems and demands of higher vocational colleges, but also conform to the actual needs of technological development and production of industry enterprises. Therefore, the development of certificates, standards and related resources is inseparable from the participation of vocational colleges, industry enterprises and other parties. Vocational education and training evaluation organizations should take the important responsibility of organizing and coordinating all parties^[5].

3.3 School Level: Establish and Improve the School Organization and Management Mechanism, Build Professional Teachers, Improve Training Conditions, and Carry Out High-Quality Social Training

First of all, as the main body of the "1 + X" certificate system, higher vocational colleges should improve the teaching management system and teaching evaluation system, and actively create conditions to become the "X" certificate authorized training and evaluation site.

Secondly, we should build a professional teaching staff, cooperate with training and evaluation organizations, actively participate in the development and construction of "X" certificates and standards by training and evaluation organizations, and jointly develop relevant teaching materials and resources, so as to lay a foundation for the implementation of the pilot work.

Finally, higher vocational colleges should participate in the construction of "credit bank" of vocational education, develop the methods of identifying, accumulating and transforming learning achievements, build supporting training rooms, actively undertake enterprise and social training, and constantly improve the quality of training.

3.4 Professional Construction Level: To Promote Reform and Learning with Evidence

According to the vocational skill level standards and professional teaching standards, reconstruct the talent training program of "1" and "X" deep integration,

organically integrate the certificate training content into the professional training program, optimize the curriculum and teaching content, and transform the standard content into professional (core) courses into the professional curriculum system^[5], or directly set the training course as a professional core course, build a matching training room and practice base, reform the existing practice teaching system to meet the practical requirements of "1 + X certificate", coordinate the teaching organization and implementation, deepen the reform of teaching methods, and improve the flexibility, adaptability and pertinence of talent training.

3.5 Curriculum System Level: Innovation of Curriculum Certificate Integration System

The implementation of "1 + X certificate" system provides a favorable opportunity for higher vocational colleges to deepen the course certificate integration system. According to the principle of docking curriculum content with professional standards, higher vocational colleges should link professional curriculum standards with vocational skill level certificate standards. Higher vocational colleges should optimize the curriculum structure and rebuild the curriculum system based on "public basic courses + professional basic courses + certification courses", Public basic courses (1-2 semesters), professional basic courses (2-3 semesters) and certification courses (4-6 semesters) are divided into three stages^[6] to stimulate students' interest in learning. At the same time, vocational skill appraisal standards are introduced into curriculum standards, and teaching materials are developed in cooperation with enterprises and training evaluation organizations, so as to realize "course certificate integration" from the practical level.

4. Conclusion

The application of the "1 + X certificate" implementation model of "three levels + two pillars" is not only guaranteed by the relevant national laws and regulations, but also based on the professional standards of training and evaluation organizations. In order to ensure the high-quality implementation of "1 + X certificate" in higher vocational colleges, we should fully carry out the work at the three levels of school, specialty construction and curriculum system. Make the compound talents trained in Higher Vocational Colleges adapt to the needs of employers and society, and provide power for the long-term development of higher vocational colleges.

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