

Research on Implementation Strategies of China's Vocational Education "1+X" Certificate System

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ABSTRACT

The "1+X" certificate system is a significant initiative proposed by the state to deepen vocational education reform. Its implementation is conducive to improving the modern vocational education system, refining the national vocational education framework, enhancing the quality of talent cultivation, and promoting the internationalization of talent development. It holds great importance for the modernization of China's vocational education. Under the current vocational education environment and conditions, the implementation of the "1+X" certificate system still faces multifaceted challenges. It is necessary to advance the system by establishing a multi-stakeholder collaborative mechanism, optimizing the vocational education development framework, improving supervision and evaluation systems, and strengthening vocational education resource development, thereby creating a favorable environment for the effective implementation of the "1+X" certificate system.

KEYWORDS

vocational education; "1+X" certificate system; vocational skill levels; training resources

In February 2019, the State Council issued the Implementation Plan for National Vocational Education Reform (hereinafter referred to as the Implementation Plan), which for the first time proposed the pilot implementation of the "1+X" certificate system, marking a new stage in the innovative development of talent cultivation and evaluation models in China's vocational education. To meet the requirements outlined in the Implementation Plan, the Ministry of Education and three other departments jointly issued the Pilot Program for Implementing the "Academic Certificate + Several Vocational Skill Level Certificates" System in Institutions (hereinafter referred to as the Pilot Program). The "1+X" certificate system will be implemented within the year in the first batch of pilot institutions. In June 2019, the Vocational Education Center of the Ministry of Education finalized the list of the first batch of pilot institutions. As the initial pilot work for the "1+X" certificate system progressed, the Ministry of Education launched the second batch of pilot initiatives in September 2019. As a significant innovation in vocational education talent cultivation systems, the implementation of the "1+X" certificate system carries multiple meanings and values, serving as an important breakthrough for national vocational education reform in the new era.

The "1" represents the academic diploma, which is a credential awarded to learners upon completing a specific stage of education. It reflects the student's overall academic achievements and their mastery of foundational professional knowledge and skills. The "X" stands for multiple vocational skill level certificates, which validate the student's proficiency in specific vocational skills. These certificates are closely aligned with industry demands, demonstrating the student's professional competence and practical abilities in a particular occupational field.

The features of certificates are as follows: 1. Career-Oriented: they are designed to closely align with the practical work requirements and skill standards of specific vocational fields, ensuring high relevance to industry and employer needs. 2. Tiered Classification: they are typically divided into different levels (e.g. basic, intermediate, advanced) to reflect students' varying skill proficiency, making it easier for employers to select suitable candidates based on job requirements. 3. High Authority & Recognition: they are assessed and issued by nationally accredited third-party evaluation institutions, ensuring strong credibility and broad societal recognition.

The "1+X" certificate system is of great significance. On one hand, the implementation of the "1+X" certificate system will further strengthen the training function of vocational education. China's traditional vocational education follows a typical school-based model, where vocational school education dominates the system while vocational skills training remains marginalized. The professional, open, and inclusive nature of modern vocational education determines that its system must equally emphasize both vocational school education and skills training, with both serving as essential components. The introduction of the "1+X" certificate system promotes the integration and unification of academic vocational education and vocational training, significantly enhancing the training function of vocational education and contributing to the improvement of China's modern vocational education system.

On the other hand, the implementation of the "1+X" certificate system helps streamline the management framework of vocational education and skills training. For a long time, China has maintained a dual-track management system where vocational school education falls under the administration of educational authorities, while vocational skills training is managed by human resources and social security departments. Due to overlaps in areas such as enrollment, training, and

continuing education, this has led to functional duplication between the Ministry of Education and the Ministry of Human Resources and Social Security, resulting in reduced management efficiency and difficulty in achieving interdepartmental synergy. Through the "1+X" certificate system, vocational school education and skills training are integrated into a unified framework. Moreover, the Implementation Plan clearly defines the responsibilities of both departments, thereby rationalizing the management system of vocational education and training and removing institutional barriers to the development of China's modern vocational education system.

However, there are challenges in Implementing the "1+X" Certificate System in Vocational Education. (1) There is lack of collaborative momentum among "Schools, Government, Industries, and Enterprises" (2) vocational schools lack vocational skills training resources. (3) vocational schools lack the conditions and environment for vocational skill level Assessment. (4) the teaching system of vocational schools struggles to meet the assessment requirements of vocational skill level certificates.

Moreover, the eligibility criteria for vocational skill level certificates in many industries conflict with the current vocational education system. For instance, some certificates require applicants to have a certain amount of work experience, making the lack of professional experience a major obstacle for students seeking to obtain "X" certificates. Given the circumstances of vocational school students, they are typically only eligible to take competency-based skill assessments for general qualifications, rather than meeting the stricter entry requirements for professional licensing exams. During the pilot phase of the "1+X" certificate system, the government primarily focused on emerging fields such as modern agriculture, advanced manufacturing, modern services, and strategic emerging industries. Since these sectors are less constrained by traditional occupational qualification systems, the mismatch between vocational education and skill certification requirements was not yet a significant issue. However, as the "1+X" certificate system expands into more traditional industries, this incompatibility will become a major challenge in promoting and implementing the system nationwide. The following strategies are to deal with the challenges.

1 Establishing a Collaborative Promotion Mechanism Led by Vocational Education Training and Evaluation Organizations with Participation from Schools, Government, Industries, and Enterprises

The basic principle for implementing the "1+X" certificate system in vocational education is to adhere to government guidance and social participation. The "1+X" certificate system involves numerous stakeholders and wide-ranging implications. To ensure its standardized and orderly advancement, the Pilot Plan clearly delineates the responsibilities of each major participant. All entities—schools, government, industries, and enterprises—must not only fulfill their respective duties but also cooperate and coordinate to maximize the collective impact of multi-stakeholder participation.

1.1 Vocational training and evaluation organizations must play a leading and core role

The Pilot Plan states: "Training and evaluation organizations, as the main bodies responsible for developing vocational skill level certificates and standards, are primarily tasked with standard development, teaching materials and learning resource development, assessment, and certification." Thus, these organizations, being accountable for the quality and reputation of "1+X" certificates, serve as developers, implementers, and issuers of vocational skill level certificates and standards. They must strengthen their organizational and professional capabilities to effectively lead the stable, efficient, and sustainable development of the "1+X" certificate system.

1.2 Government departments must focus on top-level design and infrastructure development

The Pilot Plan emphasizes: "The administrative department of education under the State Council must undertake the top-level design for vocational education and training standardization and guide the development of vocational skill level standards." In the implementation of the "1+X" certificate system, government departments primarily act as guides and service providers. Relevant government bodies should establish a national qualifications framework and a "credit bank," rigorously oversee the entry and selection processes for training and evaluation organizations, guide their development, and monitor and supervise the implementation of the "1+X" certificate system. In particular, they must innovate the management system for vocational skill level certificates, relax registration conditions for industry-related certificates, and address potential systemic challenges in the implementation process.

1.3 Industries and enterprises must increase participation and build a shared future with vocational schools

The Pilot Plan highlights: "Industry associations should actively support the development of training and evaluation

organizations" and "deepen school-enterprise cooperation by leveraging institutional and enterprise facilities and resources to collaboratively deliver teaching and training with evaluation organizations." As key participants in the "1+X" certificate system, industry associations and enterprises must actively fulfill their roles. Industry associations should utilize their informational, professional, and talent advantages to provide advice and recommendations for effective implementation. Enterprises should deepen cooperation with schools, actively participate in talent cultivation processes, and offer necessary support for vocational schools in conducting skill training.

2 Deepening Teaching System Reform to Integrate Professional Education and Vocational Skill Training

The Pilot Plan states: "Vocational institutions are the main bodies implementing the '1+X' certificate system pilot." As the primary cultivators of technical and skilled talent, vocational schools bear the responsibility for improving talent quality. A key objective of the "1+X" certificate system is to strengthen vocational skill training during schooling, enhance students' competency structures, and improve the quality and efficiency of talent cultivation. As implementers of the system, vocational schools must enhance their sense of responsibility and mission, reform teaching systems, integrate certificate training with professional education, and establish a unified framework for professional education and vocational skill training to ensure the effective and sustainable implementation of the "1+X" certificate system.

2.1 Vocational schools must innovate talent cultivation models

The "1+X" certificate system represents a new evaluation framework for vocational students. Schools should align with its requirements by exploring innovative cultivation models and plans, systematically reviewing disciplinary objectives, restructuring talent cultivation approaches, revising plans, and defining certificate combinations for each major. This will provide direction for reshaping teaching systems and offer scientific guidance for students' academic and career planning, thereby promoting reform and learning through certification.

2.2 Vocational schools must establish vocational skill training systems

Introducing skill training and certification into schools necessitates reforming existing practical teaching systems to align with assessment requirements. Schools should update practical teaching philosophies, transcend disciplinary constraints, emphasize vocational and technical aspects, and design curricula based on real workplace demands. Additionally, they should adjust school-enterprise collaboration models, prioritize skill training during internships, and extend internship durations through negotiation with partner enterprises.

2.3 Vocational schools must innovate course-certificate integration mechanisms

Course-certificate integration is an effective way to enhance talent cultivation quality. The "1+X" certificate system provides an opportunity to advance this integration. Schools should incorporate certification requirements into daily teaching, align course content and standards with certification criteria, and, where possible, designate dedicated training hours and courses. Methods such as intensive training and certification-based assessments can help students master relevant skills.

3 Improving Supervision and Evaluation Systems to Ensure Quality in "1+X" Certification

Robust supervision and evaluation systems are critical for the standardized and optimized operation of the "1+X" certificate system and for ensuring the quality of assessments and certifications. The Pilot Plan explicitly calls for "establishing supervision, management, and service mechanisms for vocational skill level certificates and training and evaluation organizations" and "monitoring and evaluating the conduct of these organizations and the quality of institutional training." Thus, implementing the "1+X" certificate system must prioritize the development of such systems through multi-faceted efforts.

3.1 Develop evaluation standards and establish indicator systems

The "1+X" certificate system involves two main tasks: (1) the development, adoption, assessment, and issuance of certificates (handled by training and evaluation organizations) and (2) student skill training (led by schools). Supervision and evaluation mechanisms must address both tasks and entities, creating standards and indicators for all

implementation stages.

3.2 Enhance supervision and evaluation mechanisms with multi-stakeholder participation

While the Pilot Plan designates education authorities and vocational education advisory committees as primary supervisors during the pilot phase, expanding the pilot will necessitate diversified mechanisms. Alongside government oversight, schools, enterprises, industry associations, teachers, and students should gradually be incorporated to build a modern, multi-stakeholder supervision framework.

3.3 Establish feedback and incentive mechanisms to optimize the system

The application of evaluation results is crucial for the effectiveness of supervision mechanisms. Governments should develop feedback and accountability systems, promptly sharing results with relevant parties. Outstanding contributions should be recognized and rewarded, while deficiencies should be addressed, fostering continuous improvement of the "1+X" certificate system.

4 Strengthening Vocational Training Resources to Ensure Adequate Supply for On- and Off-Campus Training

Vocational education encompasses both schooling and skill training. Historically, China's vocational education development has underemphasized skill training, leading to insufficient investment and making it a weak link. The "1+X" certificate system aims to transform traditional models by integrating skill training into talent cultivation. Given the specialized and practical nature of skill training, schools must enhance resource development to support on- and off-campus training, laying a material foundation for the system's implementation.

4.1 Strengthen professional course development for skill training

Schools should optimize course structures, creating modules based on "general education + professional theory + professional skills," and design skill courses according to "X" certification requirements. Teaching models should emphasize industry-education integration, with enterprise internships as a primary method to ensure practical and effective training.

4.2 Enhance faculty capacity for skill training

The shortage of "dual-qualified" teachers (with both academic and vocational expertise) is a major constraint. Schools must prioritize faculty development, particularly in practical skills, by deepening school-enterprise collaboration, inviting industry experts for teacher training, and creating opportunities for teachers to gain industry experience.

4.3 Expand on and off-campus training bases

Training bases are essential for practical teaching and skill training. Local governments should recognize their importance, increase funding, and provide financial support for high-quality bases. Schools should collaborate with enterprises to co-build and share training bases, diversifying funding sources and improving efficiency and utilization.

It is well known that reform and innovation are never without challenges. The implementation of the "1+X" certificate system will inevitably encounter difficulties, but it will also open new possibilities for vocational education and talent cultivation. Vocational schools must thoroughly understand central policies, remain confident and mission-driven, seize the opportunities presented by the "1+X" pilot, deepen reforms in educational models and teaching systems, and propel vocational education to new heights of modernization and quality.

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