

## The Predicament and Countermeasures of China's 1+X Certificates System: Based on the Perspective of Stakeholders

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### Abstract

China's skilled talent evaluation certificates mainly include vocational qualification certificates, vocational skill level certificates and special vocational ability certificates, but they are not aimed at college students. In 2019, China launched the pilot of the 1+X certificate systems, proposing to develop vocational skill level certificates for college students, so as to improve the quality of vocational education in China. From the perspective of stakeholder theory, X certificates are of great significance to students, teachers, colleges, and employers. However, at present, X certificates still have some problems, such as insufficient authority for evaluation organizations, weak construction of teacher team, insufficient teaching supply and insufficient coverage of certificates. In order to improve the effectiveness of 1+X certificates, it is necessary to improve the authority of vocational skill level certificates, restructure the teaching staff, increase the types of X certificates, and restructure the curriculum system.

**Key words:** 1+X certificates; Skilled talent evaluation; Stakeholders; Vocational skill level certificate

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In January 2019, The State Council of China issued the Implementation Plan of National Vocational Education Reform, proposing that starting from 2019, pilot work of "diploma + certificates of certain vocational skill levels",

namely, pilot work of "1+X certificates system", shall be launched in vocational colleges and application-oriented undergraduate universities. "1" refers to diploma, and "X" refers to certificates of certain vocational skill levels. In April 2019, the Ministry of Education, the National Development and Reform Commission, the Ministry of Finance, and the State Administration for Market Regulation jointly issued the Pilot Plan of implementing the System of "Diploma + Several Vocational Skill Level Certificates" in colleges and universities, marking the official implementation of the pilot 1+X certificates system in China. China divides talent positioning into three categories: innovative talents, applied talents and skilled talents. The 1+X certificates system is an important measure to promote the reform of the training mode of skilled talents. Since the implementation of the system, some results have been achieved, but there are many problems, still need to be further discussed in order to improve the effectiveness of the training of skilled talents. which need to be further explored to improve the effectiveness of skilled personnel training.

### 1. SKILL TALENT EVALUATION CERTIFICATE AND 1+X CERTIFICATES SYSTEM

China's skill talent evaluation began in the 1950s with the "eight-grade worker" system. The unique feature of this system is that wages are divided into eight grades according to the complexity of production labor and technical proficiency of the workers, and the technical grade of the workers is directly linked to the wages of the workers. This system was implemented until 1985, when it was gradually replaced by a vocational qualification certificate system. The Guidance on Promoting the Reform of Talent Evaluation Mechanism by Classification issued in 2018 clearly puts forward that the evaluation

of Chinese skill talents mainly includes three categories: “vocational qualification certificate”, “vocational skill grade certificate” and “special vocational ability certificate”, which constitute the evaluation system of Chinese skill talents. These three types of certificates are related to and different from the vocational skill level certificates in the 1+X certificate system, which can be seen from the development process and function of the evaluation certificates of each skill talent.

### 1.1 Vocational Qualification Certificate

The vocational qualification certificate is a proof that a worker has the necessary knowledge and skills to engage in a certain profession. In 1993, the Third Plenary Session of the 14th CPC Central Committee passed the “Decision of the Central Committee of the Communist Party of China on Several Issues Concerning the Establishment of the Socialist Market Economic System” which proposed qualification standards and employment standards for various professions should be formulated, and two certificate systems, diploma and vocational qualification, should be implemented.” The “Labor Law of the People’s Republic of China” promulgated in 1994 first proposed that “the state implements a vocational qualification certificate system” and began to establish a vocational qualification certificate system. Subsequently, vocational skills appraisal guidance centers covering the whole country (58 at the provincial and ministerial level) were gradually established, providing the necessary organizational guarantee and technical support for vocational skills appraisal. In 1995, the former Ministry of Personnel issued the “Interim Measures for the Vocational Qualification Certificate System”, which marked the formal formation of China’s vocational qualification certificate system.

Occupational qualification includes two kinds: Occupational qualification for access and Vocational qualifications for level assessment. Occupational qualification for access has the nature of administrative license. It is set by the State in accordance with relevant laws, administrative regulations or the decision of The State Council for specific occupations (types of work) involving public security, personal health, safety of people’s lives and property, etc. Vocational qualifications for level assessment do not have the nature of administrative permission, but are set up by the Ministry of Human Resources and Social Security in conjunction with the relevant competent departments of the State Council for occupations (types of work) with strong generality, strong professionalism and high skill requirements for the society according to the needs of economic and social development.

The vocational qualification system has played a positive role in improving the quality of professional and skilled personnel and strengthening the construction of talent teams. However, there are also some outstanding

problems in the implementation of this system, which are concentrated in the overflow of certificates. According to statistics, by the end of 2013, all regions and departments had set up a total of 2,493 types of vocational qualifications. Among them, there are 618 items set by the State Council and 1875 items set by local governments. In order to curb this phenomenon, The General Office of the State Council issued the “Notice on Cleaning up and Regulating Activities Related to Various Vocational Qualifications” in 2007, and began to gradually clean up and standardize activities related to vocational qualifications. From 2014 to December 2016, The State Council cancelled 434 types of vocational qualifications in seven batches, accounting for more than 70 percent of the total number of vocational qualifications set up by State Council departments.

On the basis of clearing up vocational qualifications, in 2017, the Ministry of Human Resources and Social Security issued the Notice on the Reform Plan for Further Reducing and Standardizing the Licensing and Accreditation of Vocational Qualifications, and began to implement the management of the national catalogue of vocational qualifications. No license or certification is allowed outside the catalog Professional Qualification. A total of 140 vocational qualifications are listed in the catalogue, including 59 for professional and technical personnel and 81 for skilled personnel. In 2021, the Ministry of Human Resources and Social Security published the latest edition of the National Catalogue of Vocational Qualifications (2021 Edition), with a total of 72 vocational qualifications. Among them, there are 59 vocational qualifications for professional and technical personnel, including 33 admittance categories and 26 level evaluation categories; 13 vocational qualifications for skilled personnel.

### 1.2 Vocational Skill Level Certificate

While cleaning up vocational qualifications, China has also promoted the identification of vocational skills levels for skilled personnel. The vocational skill grade certificate is a certificate issued to qualified personnel according to the national vocational skill standards and industrial enterprise evaluation standards, which is put on record and announced by the employing units and social training evaluation organizations of human resources and social security departments.

In 2019, the Ministry of Human Resources and Social Security issued the “Opinions on Reforming and Improving the Evaluation System for Skilled Talents”, and established a five-level vocational skill rating system.. In 2022, the Ministry of Human Resources and Social Security issued the “Opinions on Improving the Vocational Skills Grading System for Skilled Talents in the New Era (Trial Implementation)”, adding 3 levels to the original 5 levels of vocational skills and adjusting them to 8 levels .

The subjects of vocational skill grade identification include the employer and the social training evaluation organizations. The evaluation of the employer is limited to the identification of the vocational skill level of the employees of the employer. Social training evaluation organizations include technical schools and social training evaluation organizations. Among them, technical schools only carry out vocational skill level certification for their own students, while social training evaluation organizations can carry out vocational skill level certification for the society, but only for occupations that have national occupational skill standards which must be strictly implemented. According to the Occupational Classification of the People's Republic of China (2022 edition), there are 1,639 occupations and 2,711 types of work in China, but only 508 occupations with national occupational skills standards.

### **1.3 Special Vocational Ability Assessment Certificate**

Special vocational ability assessment refers to a skill appraisal activity in which a professional skill appraisal institution evaluates a specific professional ability of laborers according to the special vocational ability assessment standards examined and recorded by the state, and issues a unified national certificate of special vocational ability to those who pass the assessment. Laborers who have reached the legal working age and have corresponding skills can apply for special vocational ability assessment. The special vocational ability assessment focuses on key employment groups such as rural migrant workers, urban and rural junior or high school graduates who have not continued their studies, laid-off and unemployed people, retired military personnel, and people who have difficulty finding employment. At present, all provinces and cities across the country have announced nearly 4,000 special vocational ability assessment specifications, and the assessment items carried out by each province and city based on the characteristics of the local industry, employees and other conditions are different. The special vocational ability assessment is aimed at the types of work that are not included in the Occupational Classification of the People's Republic of China. The Ministry of Human Resources and Social Security has published 220 special vocational ability assessment standards, and each province can add special vocational ability assessment according to the actual situation.

### **1.4 Vocational Skill Level Certificates in the 1+X Certificate System**

Vocational skill level certificates in the 1+X certificate system are established in accordance with the requirements of the "National Vocational Education Reform Implementation Plan". Vocational skill level certificates are based on social needs, corporate job

(group) needs, and vocational skill level standards, and comprehensively evaluate the learners' vocational skills to truthfully reflect the learners' vocational and technical capabilities. The certificates are divided into elementary, intermediate, and advanced. The human resources and social security administrative department and the education administrative department of the State Council are respectively responsible for the management, supervision and assessment of the implementation of vocational skill level certificates outside the college and within the college (the human resources and social security administrative department is responsible for technical schools). The human resources and social security administrative department 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 related standards in accordance with vocational standards. Since the pilot implementation of the 1+X certificate system, in 2019 and 2020, the Ministry of Education has issued four batches of training evaluation organizations and vocational skill level certificates developed by them. A total of 447 certificates developed by 301 training evaluation organizations were selected. Certificates are produced in accordance with the coding rules and certificate style of the Ministry of Education. As the main body for the construction of vocational skill level certificates and standards, training evaluation organizations are responsible for the quality and reputation of the certificates. Their main responsibilities include standard development, teaching materials and learning resources development, assessment site construction, assessment and certificate issuance, etc., and assist pilot colleges to implement certificate training. Colleges and universities are the main body to implement the pilot program of the 1+X certificate system. Secondary vocational colleges and higher vocational colleges can carry out training evaluation in combination with primary, intermediate and advanced vocational skill levels. Pilot vocational education colleges at the undergraduate level, applied undergraduate colleges and universities, and The Open University of China can choose according to the actual situation of the major.

There are clear differences between these four certificates. From the point of view of the objects awarded, the first three certificates are for laborers, and the last certificate is for college students. From the perspective of evaluation agencies, the national vocational qualification certificates are implemented by government-recognized and authorized institutions, while the other three certificates are evaluated by social evaluation organization registered with the human resources and social security department or the education department. From the perspective of effectiveness, national vocational qualification certificates are evaluated by the government

and are generally used throughout the country. They are the national certificates for the recognition of the employment qualification of laborers and endorsed by the government. The last three certificates are evaluated by social forces and not endorsed by the government. From the perspective of occupation, the first two certificates are assessed strictly in accordance with the occupations or types of work in the Occupational Classification of the People's Republic of China, while the occupations or types of work involved in the latter two certificates are generally not included.

## 2. THE PRACTICAL SIGNIFICANCE AND DILEMMA OF THE 1+X CERTIFICATE SYSTEM BASED ON STAKEHOLDERS

### 2.1 The Development History of Stakeholder Theory

Stakeholder theory is one of the most important management theories, which emphasizes the importance of recognizing and meeting the needs of various stakeholders. A stakeholder is any individual or group who has an interest or concern in an organization's operations and success, including a wide variety of individuals and groups such as employees, customers, suppliers, shareholders, government and community groups, etc. Essentially, anyone affected or likely to affect the operation of a business can be considered a stakeholder.

The origins of stakeholder theory can be traced back to the 1950s, when corporate social responsibility began to receive attention. In 1953, Howard R. Bowen published "The Social Responsibility of Businessmen", a landmark book that established the concept of corporate social responsibility. According to Bowen, businesses should consider the social impact of their actions, rather than just generating profits. This marks the first time that business ethics and social responsibility are explicitly related to management practice. However, Bowen's work does not explicitly introduce the concept of stakeholders.

The term "stakeholder" was first used in an internal memo of the Stanford Research Institute (SRI) in 1963 to refer to any group or individual who could influence or be influenced by an organization's actions. The memo was written by William Freeman, an SRI employee who later became a prominent proponent of stakeholder theory under the name R. Edward Freeman.

In the 1970s, Freeman began to develop his ideas on stakeholder theory, publishing several articles that explored the concept in greater depth. One of his major contributions was to redefine the traditional view of a company as wholly responsible to its shareholders. Instead, Freeman argues that companies should consider the interests of all stakeholders, including employees, customers, suppliers and the wider community.

In 1984, Freeman published his masterpiece "Strategic Management: A Stakeholder Approach", which further developed his concept of stakeholder theory. This book argues that the interests of stakeholders should be considered when making strategic decisions and that companies should aim to create value for all stakeholders, not just shareholders. Freeman's work helped establish stakeholder theory as a unique approach to management.

After that, stakeholder theory continued to develop and gained wide attention. In 1991, Thomas Donaldson and Lee Preston introduced the concept of "moral stakeholder theory," which holds that companies have a moral obligation to consider the interests of all stakeholders, not just shareholders. The idea reflects a growing recognition that companies have a broader social responsibility beyond just generating profits. Clarkson put forward the "stakeholder model", which believes that stakeholders are part of the internal and external environment of an enterprise, and an organization must achieve a balance in multiple dimensions of stakeholders.

Another important development of stakeholder theory came in 1995 when Sandra Waddock and Samuel Graves introduced the "Stakeholder Value Model". The model proposes that companies should create value for all stakeholders (not just shareholders), and that stakeholders should be involved in the decision-making process. In 1995, Donaldson and Preston proposed the "Moral Stakeholder Theory", arguing that stakeholders have moral influence on organizational decisions and behaviors. They emphasize that organizations should consider the interests of stakeholders as a key factor in decision-making and behavior.

In the early 21st century, with the increasing importance of globalization and sustainable development, stakeholder theory has also received more attention. In 2004, Harrison and Freeman published "Stakeholders, Social Responsibility, and Performance: Empirical Evidence and Theoretical Perspectives", which proposed the relationship between stakeholder theory and corporate performance, and gave some empirical evidence. The UN Global Compact highlights the importance of stakeholder engagement in achieving the Sustainable Development Goals. Similarly, the shared value concept proposed by Michael Porter and Mark Kramer in 2011 believes that companies should solve social and environmental challenges through their core business activities, creating value for shareholders and society as a whole.

Overall, stakeholder theory has had a profound impact on the way companies think about their responsibilities and obligations. By recognizing the importance of stakeholders, in addition to shareholders, organizations will be better able to manage risk, build trust in the community and create long-term value for all parties involved. It is likely that the importance of stakeholder theory will only grow in the coming years

as society continues to grapple with complex social and environmental challenges.

## **2.2 The Practical Significance of the 1+X Certificate System to Stakeholders**

The 1+X certificate system is a system implemented in vocational colleges and applied undergraduate colleges. By the end of 2021, China will have 32 vocational colleges at the undergraduate level, 1,486 higher vocational colleges, and 7,294 secondary vocational colleges, including 5,713 pilot colleges for the 1+X certificate system. There are 16.03 million students in vocational colleges and 13.12 million students in secondary vocational education. The 1+X certificate system directly affects these students. After they are employed, the implementation effect of the 1+X certificate system will directly affect the employers. At the same time, the 1+X certificate system requires the integration of certificate training content into personnel training, which has had a profound impact on colleges and teachers. Therefore, the main stakeholders of the 1+X certificate system include students, teachers, colleges, employers, etc.

### **2.2.1 The 1+X Certificate System Helps to Improve Students' Professional Ability**

Under the traditional talent training mode, teaching and social needs are often disconnected. In the past, in order to solve this problem, education departments and colleges and universities have taken many measures. The core of these measures is actually to promote the combination of teaching and production practice, but this problem has not been effectively resolved. The 1+X certificate system is actually the deepening of these measures, and is essentially a reform of the talent training model. It closely combines theoretical teaching and skill training, improves the pertinence of talent training to a certain extent, and creates good conditions for students to improve their skills. Especially for some majors that put more emphasis on operational skills, the 1+X certificate system can promote students to acquire the skills needed for work during college, so that they can seamlessly join the work after graduation, improving students' ability to adapt to work needs, and help students find suitable jobs.

### **2.2.2 The 1+X Certificate System Brings Great Challenges to Teachers And Colleges**

The 1+X certificate system requires the restructuring of curriculum and teaching to meet the needs of talent training, and requires that the course content be coordinated with the content of the vocational skill level certificate, which subverts the traditional curriculum system and teaching content. In the traditional curriculum system, each course is often separated. This curriculum system is actually just a series of courses, rather than an organic whole with strict logic and mutual coordination. The 1+X certificate system has brought great challenges to this curriculum system. The curriculum needs to be

restructured with skills training as the core, integrating the skills required by the certificate, which undoubtedly increases considerable difficulties for teachers and colleges. The previous loose curriculum system needs to be broken. Colleges need to redesign courses and content according to skills, and teachers must continue to improve their skills according to course requirements. On the one hand, colleges should build a faculty that can keep up with the development, and on the other hand, colleges must offer courses that meet the requirements of skill training.

### **2.2.3 1+X certificate system can reduce the training cost of employers**

In the past, fresh graduates recruited by employers often cannot immediately adapt to the requirements of the job, but need to go through a long period of training, especially for positions with high requirements for operational skills. Due to the disconnection between college teaching and actual work needs, fresh graduates often need to learn from scratch, which greatly increases the cost of employers, and employers are more inclined to recruit people with work experience, which brings challenges to the employment of fresh graduates. The 1+X system can reduce the time for fresh graduates to adapt to work to a certain extent, reduce the time and money cost of employers in training graduates from novice to skilled, and allow employers to be willing to recruit fresh graduates.

## **2.3 Practical Difficulties Faced in the Implementation of the 1+X System**

The purpose of implementing the 1+X certificate system is to make full use of the advanced experience and mature standards of the leading enterprises in the training and evaluation of professional talents, to incorporate new technologies, new processes, and new norms into teaching in time, which promotes the combination of teaching and actual work, to effectively improve students' operational skills, realizes that students can adapt to work after graduation, and further improve the pertinence and adaptability of talent training. However, in the actual operation process, this system is facing many difficulties.

### **2.3.1 The Evaluation Organization Is not Authoritative Enough**

Since the pilot implementation of the 1+X certificate system, in 2019 and 2020, the Ministry of Education issued four batches of vocational skill level certificates developed by training evaluation organizations and their development. A total of 447 kinds of certificates developed by 301 training evaluation organizations have been included. Most of these training evaluation organizations are enterprises, and the proportion of small and medium-sized enterprises is relatively large. In the past, vocational qualification certificates were recognized by national ministries and commissions or local governments and endorsed by the government, which can guarantee

the authority of the certificate. Employers nationwide recognized the validity of the certificates. The authority of the certificate can not be guaranteed after the socialization recognition. From the perspective of stakeholders, large enterprises, especially well-known large enterprises, have strong technical force and can participate in the formulation of industry standards, which represents the highest level and development direction of the industry. If these enterprises participate in the development of vocational skills registration certificates, they can integrate standardized and perfect industry standards into the vocational skills certificate, thus improving the gold content of the certificate. In this way, vocational skill assessment can not only enable learners to improve their skills, but also make it easier for employers to confirm the skill level of learners, and help colleges to improve teaching level. However, at present, the proportion of certificates developed by large enterprises is too low. According to statistics, certificates developed by leading enterprises and well-known large enterprises account for less than 40%, and there is no professional skill level certificate jointly recognized by large enterprises, resulting in the lack of authority of more than half of the certificates. At the same time, these certificates have been carried out for a short period of time, have not been tested by the market, and need to be accumulated for a long time to prove their effectiveness. In terms of the selection of evaluation organizations, the Measures for the Selection and Supervision of Evaluation Organizations of Vocational Education Training Evaluation (Trial) issued in June 2020 stipulates that the selection and supervision should be under the overall leadership of the inter-ministerial Joint Conference on vocational Education of The State Council. In practice, the vocational education training and evaluation organization is recruited and selected by the Center for Vocational Education Development, Ministry of Education, and the final decision is made by the inter-ministerial joint meeting of the Vocational Education Work of The State Council. In other words, the participation of other government agencies is actually relatively low, especially the human resources department, which plays an important role in the evaluation of skill talents, does not participate in the early work, which greatly reduces the authority of vocational skill level certificate.

### **2.3.2 The Construction of Teachers Is Not Strong**

The 1+X system means that teachers in vocational colleges should not only have certain academic ability, but also have higher vocational skills. However, for a long time, the teachers of vocational colleges generally exist problems such as insufficient quantity, single source, poor two-way flow between colleges and enterprises, prominent structural contradictions and low professional level. In this regard, China proposes to vigorously build a team of “double-qualified” teachers to solve the problem

of teachers’ weak practical teaching ability. As early as 1995, China’s education administrative department required that colleges and universities applying for the pilot construction of demonstration vocational universities should have more than one-third “double-qualified” teachers. This is the earliest concept of “double-qualified” appeared in policy. The Implementation Plan of the National Vocational Education Reform specifies that “double-qualified” teachers refer to teachers in vocational colleges who have both theoretical and practical teaching abilities. At the same time, it requires that from 2019, teachers of relevant majors in vocational colleges and application-oriented undergraduate universities should be recruited from those with more than three years’ working experience in enterprises and higher vocational education or above. In 2022, the Ministry of Education formulated the basic standards for “double-qualified” teachers, aiming to further strengthen the construction of “double-qualified” teachers. However, teachers still face great difficulties in off-duty training in enterprises, which does little to improve teachers’ practical teaching ability. At the same time, as a supplement to the teaching team, the quality and quantity of part-time teachers in enterprises cannot be guaranteed, which also affects the construction of the teaching team to some extent.

### **2.3.3 Insufficient Teaching Supply**

The characteristic of 1+X certificate system is to promote the communication and connection between diploma and vocational skill level certificate, so college teaching must break the problem of not connecting with actual production in the past. However, the depth of the integration of vocational skill level certificates and courses is still not enough. For example, the textbooks used in the course are still mainly traditional, and the content of vocational skill level certificate is not integrated into the textbooks. At the same time, the vocational skill level certificate belongs to the hierarchical system, but the teaching materials and courses do not implement the hierarchical system. The training of vocational skills has a high requirement of contextualization, but the practical links in the course are not enough, and the practice and training base can not fully meet the needs of students. In particular, the current course arrangement is still the traditional mode, while the training of vocational skills has its own rules. The teaching arrangement should break the traditional mode and follow the rules of skill training to arrange courses.

### **2.3.4 Insufficient Certificate Coverage**

At present, there are 447 pilot certificates, and according to the professional Directory of Vocational Education issued by the Ministry of Education (2021), 19 major categories are set up, including 744 vocational college majors and 247 vocational undergraduate majors. In other words, the certificate coverage is less than half. Even if some certificates can be used as general certificates for

several related specialties, the coverage of certificates is still insufficient. At the same time, the setting of certificates is somewhat arbitrary, and the difficulty of certificates varies greatly. Some certificates focus on application, others on development.

### 3. MEASURES TO IMPROVE THE VALIDITY OF THE 1+X CERTIFICATE SYSTEM

Since the first batch of vocational skill level certificates were issued in November 2019, the 1+X certificate system has been implemented for nearly four years, and students who obtained the first batch of vocational skill level certificates have already found jobs. Although the evaluation report on the implementation of the 1+X certificate system has not been released and the feedback mechanism for the implementation of the 1+X certificate system has yet to be perfected, the significance of the 1+X certificate system is still significant. From the perspective of stakeholders, to solve the problems existing in the implementation process of 1+X certificate system and improve the effectiveness of this system, it is necessary to improve the enthusiasm of stakeholders to participate in.

#### 3.1 Improve the Authority of Vocational Skill Level Certificate

From the perspective of the main bodies of the evaluation organizations of vocational skill level certificates, quite a few of them belong to small and medium-sized enterprises with low reputation, which leads to the low gold content of some vocational skill grade certificates. In order to improve the authority of vocational skill level certificate, it is necessary to encourage large enterprises, especially well-known large enterprises, to participate in the research and development of vocational skill level certificate. At present, the vocational skill level certificate can only be evaluated by a single organization, which is not conducive to the universality of the vocational skill level certificate, especially for some vocational skills lacking industry standards or new crossover, it is more necessary for the industry or enterprises with a dominant position to jointly develop vocational skill level certificates. It is suggested to introduce preferential policies for large enterprises to participate in develop vocational skill level certificates, such as tax breaks and subsidies, so as to stimulate the enthusiasm of large enterprises to participate. Industry organizations should be encouraged to lead enterprises to jointly carry out research and development of vocational skill level certificates, gather more enterprise strength, and promote vocational skill certificates to become an important certificate for enterprise recruitment and skill recognition. In terms of the selection and supervision of the evaluation organization, the role of other

government departments, especially the human resources department, should be brought into play, and the Ministry of Education, the Ministry of Human Resources and Social Security should be promoted to jointly carry out the selection and supervision work, and jointly develop vocational skill standards. The vocational skill level certificate should be incorporated into the management of the human resources department at the same time, and can be queried on the national network query system of skill talent evaluation certificate.

#### 3.2 Restructure the Teaching Staff

The 1+X certificate system puts forward higher requirements for teachers, who not only need to have solid professional theoretical knowledge, but also need to update their practical skills regularly according to technological development. Vocational colleges should develop X certificate training plans, incorporate certificate training into 5-year enterprise rotation training for teachers, and allow teachers to replace enterprise rotation training with X certificate training. Teachers are encouraged to undertake the vocational skill level certificate training. The training workload for students can be converted into teaching workload, and the training workload for social personnel can be paid according to the certificate level. The promotion of professional title should incline to double-qualified teachers who undertake X certificate training, or set X certificate training titles separately. To meet the requirements of X certificate setting, set up a cross-college training team and strengthen the collaboration among teachers. Strengthen the construction of part-time teachers, encourage colleges and universities to add enterprise part-time teachers to the courses involved in 1+X certificate, and part-time teachers should meet the requirements of the certificate.

#### 3.3 Adding the X Certificate Type

On the basis of the pilot, increase the types of vocational skills certificate. The setting principle of certificates should be unified, and certain distinctions should be made between general and specialized skills. General skills can also be divided into basic general skills and specialized general skills. Professional general certificates can be set up within or similar professional groups to encourage students to obtain both general and specialized certificates. Vocational skills certificates set by human resources departments should also be open to students at college to further expand the connotation and coverage of X certificates.

#### 3.4 Restructure the Curriculum System

Redesigning the curriculum system with skills as the center. The skills can be divided into core skills and extended skills. The core skills are the ones most closely related to students' major, and extended skills are the ones related to students' major. For core skills with an X

certificate, X certificate can be used directly as the core skill requirement. For core skills without an X certificate, other types of skill level certificates can be used as a reference, while emphasizing the importance of expanding skills to correspond to X certificates. The curriculum system should focus on core skills, and build core skills courses around the basic theory and practice of core skills, so that students can not only understand the principle, but also be able to practice. The core skills course should be combined with X certificate training, and the standard requirements of the core skills course should be consistent with the primary level of X certificate. After completing the core skills course, students should be encouraged to participate in the X certificate examination in time. In addition to ensuring core skills courses, campus co-construction and sharing extended skills courses are also provided. As an elective content, students must obtain certain credits of extended skills courses or relevant skills registration certificates before graduation.

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