

Connotation and Construction of "1 + X" Certificate System in Higher Vocational Colleges: Taking Hetian Vocational and Technical College as an Example

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Abstract This paper emphatically sums up the problems existing in the implementation of "1 + X" certificate system by taking horticulture major in higher vocational colleges as an example. From the point of view of the improvement of "1 + X" certificate system, the reform of talent training program, the improvement of teachers' ability and summing up experience, this paper puts forward the updated working mode and ideas to provide strategies for accelerating the development of vocational education in southern Xinjiang.

Key words "1 + X" certificate system, Pilot situation, Problems, Strategies

1 Introduction

In order to meet the needs of social development and improve the professional and technical ability of college students, the pilot work of "1 + X" certificate system has been started in various vocational colleges and application-oriented universities since 2019. In the "1 + X" certificate system, "1" represents the academic certificate, which is the graduation condition that college students need; "X" represents various vocational skill level certificates obtained by students. The "1 + X" certificate system is the institutional innovation and transformation and upgrading of vocational education, so "1" in the certificate system is the foundation of "X", and "X" is the supplement, strengthening and expansion of "1". The connection and integration of vocational skills certificates is the quintessence of the "1 + X" certificate system. However, as far as the current situation is concerned, the "1 + X" vocational skill certificate system only realizes the connection between the certificate and some related courses, but does not achieve the effective connection with professional skills. Therefore, the integration of academic education and vocational and technical certificates is still in the initial stage. How to make the certificate more representative of professional knowledge and more valuable is the primary problem that needs to be solved urgently at present, and the investment of time is positively correlated with the benefits received^[1–2].

2 Implementation of "1 + X" certification system

The "1 + X" work carried out in various places, mainly in vocational schools in economically developed coastal areas, has

made good progress, and the effect in the certificate system assessment is good, but at the same time some problems have been exposed. There are some problems in the process of perfecting the certificate system^[3–4], so this paper takes horticulture major of Hetian Vocational and Technical College as an example, summarizes the role played in the implementation process, analyzes the problems existing in "1 + X", and puts forward feasible solutions.

The pilot work of "1 + X" certificate system has been promoted for 2 years in horticulture major of Hetian Vocational and Technical College. Under the guidance of *Pilot Program on Implementing the System of "Academic Certificate + Several Vocational Skill Level Certificates" in Vocational Colleges*, combined with the actual conditions of Hetian Vocational and Technical College, the needs of green agriculture transformation and development in southern Xinjiang are clarified, so as to adapt to the agricultural economy as an important source of people's livelihood and meet the requirements of regional industrial transformation and upgrading. 8 teachers participated in the training of assessors, and 50 students took the examination, among which 39 students obtained certificates, with a passing rate of 78%. Student registration covers all graduates, and the training content is planned according to the talent training plan. The examination room arrangement of the college also follows strict examination regulations. Strict and formal construction makes students and teachers attach great importance to this certificate so as to ensure the smooth completion of the examination.

2.1 The content of "X" project is oriented to the needs of production and education Horticultural major of Hetian Vocational and Technical College, oriented to southern Xinjiang, is very regional^[5]. It mainly trains skilled talents in agricultural fields related to horticultural technology major in Hetian and southern Xinjiang, and supplements the professional talents in southern Xinjiang. Therefore, in the selection of "1 + X" project, it is mainly positioned to cultivate the practical ability to adapt to

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the development of modern agricultural industry and master the theoretical knowledge and management system related to the classification, cultivation, marketing and floral application of horticultural plants including special cash crops such as vegetables, fruit trees and flowers. For the production, management, construction, sales and after-sales service of horticultural plants and physiology, market investigation and analysis of horticultural products, illustration and floral decoration, rural society and rural policies, agricultural eco-tourism, leisure agriculture, greening and agro-technical extension units, it mainly trains skilled talents who are engaged in horticulture-related production, trade, conservation, promotion and development, and have certain innovative and entrepreneurial abilities.

In order to cope with the heterogeneity of horticultural students and the diversity of horticultural industry's demand for talents, this major adopts practical training methods such as concentrated training, innovation and entrepreneurship, and post practice in enterprises. In recent years, the major construction has made great progress. By introducing the production process of enterprises and deepening the integration of production and teaching, a set of perfect teaching system of campus training base matching with the production situation of enterprises has been gradually established. When choosing the "X" project, this major is always guided by social needs, adapts to the pace of the market and the direction of the country, and well implements the strategy of "rural revitalization". This project can not only solve the problem that the number of horticultural professionals is not enough to support the agricultural development in southern Xinjiang, but also greatly promote the sustainable development of talent training and professional construction in vocational colleges. Therefore, vocational colleges, as the main component of China's skill formation system, undertake the mission of educating, cultivating and upgrading the technical skills of industrial workers, and should be the main body and carrier of the implementation of the "1 + X" system. The "1 + X" certificate system of horticultural technology major is always guided by the needs of production and education. In accordance with the current situation, in the pilot process of the "1 + X" certificate project, the exchange and study with Shandong Shouguang Vegetable Industry Group can fully meet the needs of training, teaching and examination of the "X" project.

2.2 "X" curriculum system aims to enhance students' professional quality The implementation of "1 + X" certificate system has an all-round impact on vocational education, so it is necessary to reform and make appropriate adjustments to talent training programs, curriculum standards, evaluation standards and other elements. The traditional curriculum structure of vocational colleges is generally one-track, including three types: public basic courses, professional basic courses and professional skills courses. However, under the "1 + X" certificate system, vocational education should implement a dual-track or multi-track curriculum structure, which needs targeted exploration. Taking the horticultural technology pilot project of Hetian Vocational and Technical College as an example, according to the requirements of intermediate (or primary) vocational skills standard of vegetable cultivation

and operation, the courses such as *Vegetable Cultivation Technology*, *Fruit Tree Cultivation Technology* and *Flower Cultivation Technology* are embedded into the relevant knowledge points of the training courses in the form of knowledge fragments, so that students can acquire various kinds of knowledge through learning one course, realize the integration and transcendence of knowledge, comprehensively improve their comprehensive professional quality, and provide the possibility for cultivating compound technical and technical talents.

2.3 The construction of "X" teaching staff takes the integration of theory and practice as the core In the period of social transformation, how can teachers of vocational education play a greater role in cultivating people by virtue and guiding vocational technical students to become talents? Under the background of the implementation of "1 + X" certificate system, we need to build a double-qualified team combining theory with practice, major with part-time job, aiming at cultivating high-quality compound professional talents. The "1 + X" certificate system requires students to obtain one or more vocational skill level certificates outside their major while completing their professional studies. Therefore, teachers must have corresponding knowledge and skills, and obtain higher vocational skill level certificates. Taking the pilot project of vocational skill level certificate examination for facility vegetable production in Hetian Vocational and Technical College as an example, we have formulated a teacher development plan under the "1 + X" certificate system. The plan requires teachers to thoroughly study the relevant policy documents of the "1 + X" certificate system, study the standards of vegetable planting skills certificates, and clarify the connotations and requirements of the three levels of primary, intermediate and advanced.

Besides, teachers also need to participate in horticultural technology-related training, obtain intermediate and advanced skill level certificates, and actively apply for assessor qualifications. At present, the professional teachers of horticultural technology in Hetian Vocational and Technical College have participated in the training of assessors on the vocational skill level certificate for facility vegetable production in Shouguang, Shandong Province, and basically have acquired the basic knowledge and skills related to the assessment contents of vegetable planting. In addition, we have also set up a double-qualified team combining theory with practice and major with practice, and the professional teachers from the Team for Supporting Xinjiang's Development have provided teacher guarantee for Hetian Vocational and Technical College to successfully implement the certificate system of horticultural technology pilot projects under the "1 + X" certificate system.

3 Main problems

Generally, this paper focuses on analyzing the problems existing in vocational colleges, further clarifying the original intention of the design of "1 + X" certificate system, especially summarizing the problems encountered in the implementation. The main problems are as follows:

3.1 Students don't pay enough attention to "1 + X" certificate The "1 + X" certificate system was put forward by the Min-

istry of Education in 2019. Although it has been ubiquitous in college education, its popularity at the social level is not high, and students' sense of identity on it mainly comes from the needs of society and the recognition of enterprises. Therefore, students' understanding of "1 + X" certificate is not comprehensive and profound enough, and they can't actually feel the importance of "1 + X" certificate to their profession. However, in the examinations of pilot schools, it is found that few students participate in and understand the "1 + X" certificate system independently, and they can learn more mainly through the explanation of teachers responsible for the "1 + X" certificate system. Even most students think that the "1 + X" certificate is only a professional course in horticulture, and they can get the certificate after passing the examination, but failing the "1 + X" examination system will not bring too much influence to students. Moreover, students need a lot of time to train before the examination, which makes students who do not love learning very much pay less attention to the "1 + X" certificate system.

3.2 Teacher resources are insufficient At present, an important problem facing the reform of vocational education is the shortage of "double-qualified" teachers in some colleges, especially the lack of practical teaching ability in horticulture. However, in the process of implementing the 1 + certificate system, we find that it needs a team of "double-qualified" teachers with strong theoretical teaching ability and rich practical teaching experience to support it. By the end of 2019, the total number of full-time teachers in vocational colleges had reached 1.332 million, among which the total number of "double-qualified" teachers was 455 600, and the number of teachers in secondary vocational schools was 264 000, accounting for 31.5% of full-time teachers in secondary vocational schools and the number of teachers in higher vocational schools was 191 000, accounting for 39.7% of full-time teachers.

However, the teaching staff of vocational education in China is still mainly from academic education, and there are some problems, such as single source, poor two-way flow between schools and enterprises, prominent structural contradictions, inflexible management system, low level of practical specialization, and weak practical education and teaching ability.

3.3 The pre-exam training is not consistent with the examination outline When implementing the "1 + X" certificate assessment system, taking horticulture as an example in the pre-exam training, the name of the certificate obtained for the "1 + X" certificate system of horticulture technology major in higher vocational colleges is "Vocational Skill Certificate of Facility Vegetable Production". According to the examination outline provided by the evaluation organization, when organizing the pre-examination training for students, it is found that due to the lack of training equipment corresponding to the examination outline, the effect of pre-examination training is often not satisfactory, which will also affect the final examination results of candidates.

3.4 The social recognition of "1 + X" certificate is not high China's vocational education has always adopted the "double certificate" system, that is, the combination of academic certificate and vocational qualification certificate. The vocational skill level

certificate, as the main talent evaluation mode, plays an important role in improving students' professional ability and professional quality. However, this system also has some problems. First of all, the value of some skill level certificates is insufficient, the recognition of industrial enterprises is not high, and the assessment standards lag behind the needs of social development. Secondly, the phenomenon of "various kinds of certificates from different departments" is quite common, which brings troubles to students, teachers and enterprises. In addition, the socialization degree of formulating vocational standards, carrying out vocational qualification appraisal and recognizing vocational qualification certificates is not high, which makes vocational qualification certificates not closely related to selecting and employing talents, employment access, salary, rewards, *etc.* It leads to the actual function and operation mechanism of vocational skill level qualification certificates violating the original design intention.

4 Strategies and measures

4.1 Enhancing students' attention to the "1 + X" certificate system In order to realize lifelong learning and flexible academic system, the talent training program of horticultural technology courses has been re-recognized, and "1 + X" training courses have been integrated into it, and "1 + X" certificate system has been incorporated into one of the important professional courses. At the same time, a system of identification, accumulation and transformation of learning achievements has been established, so that students can break through the restrictions of majors and professional groups through the accumulation and transformation of "1 + X" credits, and achieve a leap in academic qualifications. The goal of "1 + X" certificate system is to realize the accumulation and transformation of learning achievements, which is also an important construction task. By improving students' attention to the "1 + X" certificate system, they could be aware of its benefits and functions to them, so as to consciously improve their attention.

4.2 Improving teachers' professional ability In order to improve the teaching ability and vocational skills of teachers in higher vocational colleges, it is necessary to accumulate enterprise practice and class practice teaching experience and strengthen skills training. At the same time, double-qualified teachers should establish a professional theoretical system and pay attention to the details of technical operation. In addition, we should further deepen the cooperation between schools and enterprises, establish a practice training base that conforms to the post standards of enterprises, and let teachers enter social enterprises to receive post training and study first, so as to improve their skill operation level, understand the needs of enterprises for talents and skills, and finally serve the teaching of higher vocational colleges and improve the teaching quality and the employment rate of students.

4.3 Improving talent training programs and training efforts In order to train talents better, higher vocational colleges have implemented the "1 + X" certificate system, adjusted the talent training scheme, and combined professional disciplines with vocational skills. In order to meet the requirements of enterprise opera-

tion skills, vocational skills education should be integrated into professional discipline education in talent training programs, and new vocational standards should be incorporated into curriculum standards. In addition, we should actively introduce new technologies and new processes, and incorporate new norms into curriculum standards to improve the quality of talent training. In the talent training program, it is necessary to highlight the importance of vocational skills certificates, increase course hours, strengthen pre-exam training, and improve the certificate passing rate for "1 + X" assessment system, so that more students can obtain certificates before graduation.

4.4 Strengthening communication with relevant enterprises and improving the "1 + X" certificate system At present, the "1 + X" certificate system has just started to be implemented in many colleges and universities, and there are still many problems that have not been encountered and are difficult to solve. Therefore, it is necessary to exchange experience with relevant enterprises regularly, jointly formulate the "1 + X" certificate system, teach each other updated ideas and implementation modes and schemes of the certificate system, improve the shortcomings and problems in the implementation work, optimize and improve the "1 + X" certificate system, improve the recognition of the "1 + X" certificate by relevant enterprises, and increase the employment rate of students.

5 Conclusion

Through the above-mentioned research on "1 + X" certificate system, it is clear that the implementation of "1 + X" certificate system is an important strategic policy for the rapid development of

vocational education in China by the Ministry of Education in the future development of vocational education in higher vocational colleges. By analyzing the problems in the implementation of "1 + X" certificate system for horticulture majors in higher vocational colleges, this paper puts forward the updated working mode and ideas to provide strategies for accelerating the development of vocational education in southern Xinjiang from the point of view of the improvement of 1 + X certificate system, the reform of talent training program, the improvement of teachers' ability and summing up experience.

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