

# Practical Exploration of “1+X” Certificate System in the Automotive Field of Higher Vocational Colleges

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**Abstract:** One of the most important innovations in the development of modern education in China is the “1+X” certificate system. The main purpose is to cultivate compound talents and is an important measure to improve the economic and social level. Taking the automobile major of higher vocational colleges as an example, this article mainly elaborates the necessity of the “1+X” certificate system and the difficulties faced by colleges and universities in the implementation of the “1+X” certificate system, and puts forward some strategic suggestions for this purpose.

**Keywords:** Higher Vocational Colleges; “1+X” Certificate System; Automotive Professional Field

## 1. The meaning of “1+X” certificate system

In 2019, the state will implement a pilot “1+X” certificate system in applied colleges. Among them, “1” means the academic certificate issued by the college for the student’s graduation; “X” means the personal skill level certificate obtained by the student, which represents the comprehensive ability of the student or social student in the career development career. The “1+X” certificate system is to continuously expand one’s own vocational skills and broaden employment channels on the basis of obtaining academic certificates. At present, the Ministry of Education of our country conducts trials of the “1+X” certificate system for six skill-based majors in some colleges and universities, and the automotive major is one of them. According to the current development, pilot work in other professional fields is just around the corner.

## 2. The necessity of advancing the “1+X” certificate system

### 2.1 Reflects the needs of national development for vocational education

In recent years, my country has issued a series of documents stating that “the future development direction of China’s vocational education will focus on meeting the needs of the country, market needs, and the improvement of student skills”. We can interpret this as: future vocational education should meet the needs of the country, society and individuals. The development needs of the three.

The development of vocational education is related to the realization of the “Made in China 2025” and “China Smart 2035” development plans, and is related to whether the country has sufficient producers, manufacturers and technical skills. The country vigorously develops higher vocational colleges, does a good job in the drainage and diversion of talents, and at the same time does a good job in training and skill identification of talents at all levels, all of which can lay a good educational foundation for the long-term development of our country.

### 2.2 Reflects the needs of social development for vocational education

The employment situation of graduates is the most direct test of the effectiveness of vocational education. More and more companies tend to choose compound talents with a certain professional background.

Able to obtain the “1+X” certificate, to a certain extent, explains the student’s accomplishment in the professional field, as well as his independent learning ability, professional technical level, and learning interest.

When selecting and appointing people, enterprises can also judge the comprehensive ability of students based on the acquisition of the “1+X” certificate, and select the compound talents they need.

### **2.3 Reflects the needs of industry development for vocational education**

In recent years, earth-shaking changes have taken place in the automotive industry; In particular, the rise of new car-making forces represented by Xiao Peng and Wei Lai has brought tremendous changes in the fields of automotive technology and marketing. In terms of technology, cars no longer pursue the improvement of single performance, but instead pursue intelligence and human-computer interaction; In terms of market and sales, car owners no longer confine themselves to traditional advertising in obtaining information, and the 4S sales method has been repeatedly praised by people. Questions and market shocks. People’s vocabulary such as “cross-border”, “Internet +”, and “short video” has an increasing impact on people’s social life and production. These changes are unstoppable, and only adaptation is possible. Reflected in the ability of the job, it means that the requirements for the comprehensive quality of the employees are getting higher and higher, and there is no employment advantage by only having professional skills.

In short, the implementation of the pilot work of the “1+X” certificate system reflects the needs of national development, social development, and industry for vocational education; At the same time, it also takes into account personal career development planning.

## **3. Challenges faced by colleges and universities under the background of the “1+X” certificate system**

Starting in 2019, the state has initiated pilot work of the “1+X” certificate system in vocational colleges and applied undergraduate colleges and universities. During the pilot process, some problems were exposed.

### **3.1 Faculty**

The implementation of the “1+X” certificate system is aimed at cultivating compound technical and technical talents, and puts forward higher requirements for students’ job skills. What is derived is higher requirements for full-time teachers in vocational colleges. Teachers are required to understand both vocational education and theoretical knowledge, as well as industry changes and job skills.

In higher vocational colleges, most young automotive teachers graduated from major colleges and universities, lacking relevant work experience, and knowledge update lags behind changes in the industry, resulting in a low relevance between the content of the explanation and the professional requirements. At the same time, because the school has a clear control of the teaching progress, teachers need to implement teaching step by step according to the teaching plan (allowing an error of 2-4 class hours before and after), which is an improvement in “technical skills” that require a lot of time accumulation. All of these may lead to the failure to achieve the teaching requirements of “technical skills” in the “1+X” certificate.

### **3.2 Teaching materials**

The implementation of the “1+X” certificate system must handle the relationship between the academic certificate “1” and the vocational skill level certificate “X”. The connection and integration of the two certificates is required, and the training content of the “X” certificate needs to be integrated with the curriculum content of the professional talent training program.

From the perspective of the implementation of “1+X” certification, to complete the certification with a certificate module, students need to have basic professional knowledge and theory in terms of knowledge and abilities, as well as knowledge and skills that match the company’s actual and skill level standards. This means that the course content of learning should be a mixture, so the corresponding learning materials should also be a mixture. For example, in the verification of the vocational skill level certificate of smart new energy vehicles, it involves the comprehensive application of knowledge and skills of power system, drive system, motor system and battery system. These four belong to the basic work process of a job. In the textbook organized by the subject system, the knowledge of these four parts is separated from each other.

Furthermore, in the traditional subject-based teaching model, the content organization and compilation of textbooks are more suitable for the “teacher as the main body” teaching mode with the teacher as the main body.

Obviously, under the “1+X” certificate system, the construction of students’ abilities should be the core, and the teaching materials should also reflect the characteristics of “student-oriented”.

### **3.3 Teaching methods**

After years of exploration, colleges and universities have paid more and more attention to “student-centered” in the teaching process, and the original “teacher-centered” teaching method is gradually changing. But as far as the teaching method itself is concerned, it is far from being able to meet the requirements of the implementation of the “1+X” certificate system. “The classroom atmosphere is boring, and students can’t concentrate”. There are still many situations in reality, which will inevitably affect the teaching effect.

## **4. Suggestions on the implementation of the “1+X” certificate system**

### **4.1 Build a “dual teacher” teaching team and actively explore the “dual tutor” model**

In recent years, various colleges and universities have been building a “dual-qualified” teaching team, and are also actively carrying out the training and evaluation of “dual-qualified” teachers. Teachers in higher vocational colleges are required to have both educational and teaching capabilities and professional and technical capabilities. In terms of education and teaching, he can “preach the preaching and solve puzzles”, and give guidance to students in terms of knowledge, consciousness, and outlook on life; In terms of professional technical skills, he can act as the “first master” of students during school. Give guidance on job skills and professionalism. The “X” in the “1+X” certificate system solves the problem of expanding students’ vocational skills and professional qualities. This is precisely the purpose of the construction of a “dual-qualified” teaching team.

In addition to internally improving the teaching ability of teachers, higher vocational colleges can also explore the “dual tutor” model and seek out teaching resources from outside the school or from the enterprise. The “dual tutor” model can be understood as: school teachers + off-campus instructors. This “off-campus instructor” is more inclined to choose enterprise experts or front-line staff. According to the talent training plan, “in-school teachers” use a variety of methods to impart academic knowledge to students, establish a solid theoretical knowledge system for students, and strengthen the guidance of students’ ideological awareness; “Off-campus instructors” adopt multiple methods according to the requirements of talent training. In multiple scenarios, students are taught technical skills, practical operations, job experience and other business knowledge to strengthen the guidance of students’ professional ethics.

Institutions can give priority to making good use of the existing teaching resources of school-enterprise cooperation units, and gradually improve the “dual tutor” model.

### **4.2 Actively develop loose-leaf textbooks that meet the requirements of “1+X” certificate verification**

Exploring the implementation process of the “1+X” certificate module shows that completing the certification of a certificate module requires thinking about which courses students should complete to have the ability to obtain the skill certificate, and then reconstruct or reorganize the school’s existing courses. Therefore, the courses and corresponding textbooks under the “1+X” certificate system are all a mixture, including existing courses and textbooks as the basis, as well as guiding courses and textbooks that are in line with the company’s actual and skill level standards.

On January 24, 2019, the State Council formally issued the “National Vocational Education Reform Implementation Plan” (hereinafter referred to as the “Plan”), advocating the use of new loose-leaf textbooks.

Loose-leaf textbooks can be arranged and printed in the logical order of traditional textbooks, but they should be loose-leaf in form. The scattered knowledge points can be reorganized according to the requirements of level certification knowledge and skills, which is more in line with skill level verification. The inherent requirements of knowledge structure. In terms of the pertinence of the teaching subject, loose-leaf textbooks are teachers’ textbooks and students’ “learning materials”. Under the guidance of teachers, students can complete the learning process autonomously by using loose-leaf textbooks. From the content presentation of loose-leaf textbooks, loose-leaf textbooks need to cover the basic operating points of job tasks, so it is a

manual of operating points and also a skill level assessment standard.

It can be seen that loose—leaf textbooks can ensure the practicability and efficiency of supporting textbooks for the “1 + X” certification system to the greatest extent, and the status of loose—leaf textbooks as the mainstream form of task—oriented textbooks should be gradually established.

### **4.3 Focus on “task—driven” teaching methods, strengthen the use of information—based teaching methods, and explore multiple teaching methods**

The “1+X” certificate system requires students to have excellent technical skills and practical skills. It is possible for students to improve their technical skills through actual hands—on and repeated operations. Therefore, under the “1+X” certificate system, how to awaken students’ subjective initiative becomes very important.

Adopt the teaching method that is guided by the teaching task and is task—driven, and integrate the teaching objectives and teaching content into the completion of specific teaching tasks.

Teachers do a good job in the transformation of “post task—course task”. Before class, release study materials and assign preview tasks; In class, send “course tasks” to explain common and key knowledge points, and guide students to complete course tasks; After class, do a good job of student evaluation and knowledge review in time; Such as it is necessary to re—import typical work tasks.

Students make use of the learning materials and loose—leaf textbooks released by the teacher to do a good job of pre—class knowledge preview; In class, further study the knowledge points, using the “loose—leaf textbook” as a reference to complete the “course tasks” in groups; Review after class and rectification, compare with loose—leaf textbooks to evaluate your own knowledge and skill level.

Mobile teaching platforms such as “Smart Vocational Education” and “Study Tong” provide convenience for the realization of the above process; At the same time, teachers can also use them to closely track the learning and participation process of students; It also provides effective communication between teachers and students.

## **5. Conclusion**

In general, the implementation of the “1+X” certificate system in the automotive industry is imperative. Automobile major, as one of the six pilot majors of the “1+X” certificate system of the Ministry of Education, should be at the forefront of other majors and explore a path of “1+X course certificate” integration suitable for similar majors in higher vocational colleges. Higher vocational colleges should increase their efforts, combine the practical application of automotive professional courses, train students’ comprehensive abilities, and reform from the three aspects of “teacher team”, “textbooks” and “teaching methods” to seek breakthroughs. Uphold the spirit of fulfilling the responsibility of students and education, paving the way for their comprehensive and sustainable development, in order to achieve the ultimate goal of higher vocational education.

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