Research on the Training Reform of High Skilled Talents of Automobile Major in Higher Vocational Colleges under the “1 + X” Certificate System

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ABSTRACT. The national vocational education reform implementation plan points out that it is necessary to cultivate compound technical talents with core vocational ability.”1 + X certificate system” combines “academic certificate” with several “vocational skill grade certificates” to improve the quality of talent training in vocational colleges. At present, the Automotive Engineering Department of Weifang Engineering Vocational College has two higher vocational automotive majors, namely, new energy vehicle application technology and vehicle detection and maintenance technology, and also a major in the field of construction machinery application technology. This paper takes the automotive major as the research object, draws on the similarities and differences and advantages of the three majors, combines with the current talent training mode, and combines with the “1 + X” “This paper will explore the reform from the aspects of personnel training mode, personnel training curriculum system, practice teaching system, and teaching staff construction, so as to provide reference for the integration reform of “1 + X” certificate system in automobile specialty.

KEYWORDS: “1 + x certificate system”, Automotive professional group, High skilled talents, Training program

1. Introduction

In 2019, the national vocational education reform implementation plan points out that the pilot work of “1 + X” certificate system will be launched in the national vocational colleges. I represents “academic certificate”; X represents several vocational skill level certificates, encouraging students to obtain multiple vocational skill level certificates, strengthening practical ability, improving technical skills and enhancing the quality of personnel training.

2. The Current Situation of Automobile Professional Training

With the implementation of “made in China” 2025, the state has put forward higher requirements for intelligent manufacturing. As the pillar industry of national development, automobile industry also plays a particularly important role in the development of national economy. With the gradual improvement of the degree of intelligence, great changes are also taking place in the automotive industry, which puts forward higher requirements for technical and skilled talents, and enterprises have higher demand for compound technical and skilled talents [1]. The traditional automobile talent training mode, students only to get a diploma, for the learning process, especially the learning process of technical skills, is obviously insufficient, can not meet the needs of enterprises for technical talents.

The “1 + X” system encourages students to participate in the assessment of vocational skill level certificate, which increases students' interest in learning technical skills. The content of certificate assessment is closer to the requirements of actual work tasks of enterprises, and students' certificate examination is to preview their future work in advance. How to better innovate and reform the talent training mode of the “1 + X” system is also how to implement the policy and improve the quality of personnel. The quality of talent cultivation is also an urgent problem to be solved.

3. “1 + X Certificate System” and the Significance of the Reform of Automobile High Skilled Talents Training

3.1 Improve the Level of Students’ Technical Skills and the Quality of Personnel Training
“1 + X” certificate system requires that the content of certificate assessment be closer to the enterprise scene. The school must go deep into the industry and enterprise to investigate the post situation and talent demand, and formulate and improve the content of certificate assessment in combination with the experience of domestic and foreign industry experts and professional skills standards, which is conducive to promoting the reform of talent training mode and assessment mode, so as to improve students’ practical operation ability and cultivate more high-quality talents. Quality compound automobile skilled talents.

3.2 The Content of Certificate Assessment Meets the Needs of the Industry and Improves the Employment Rate and Employment Stability Rate

Under the guidance of big power craftsmen, students are encouraged to take various occupation skills certificate examination, which improves the advanced knowledge and skills of students, adaptability of Posts and flexibility of employment, thus broadening the employment channel [3] of students and improving employment rate and employment stability.

3.3 The Content of Certificate Assessment is Task-Based, Forward-Looking, and Has a Negative Effect on the Improvement of Teachers' Level

With the rapid development of automobile industry technology, theoretical knowledge and practical skills are also updated at any time. Only by mastering the latest technical skills can we undertake the course teaching integrated with “x certificate”. The introduction of “1 + X certificate system” encourages professional teachers to actively participate in relevant technical skills training and obtain corresponding vocational skill level certificate and evaluation certificate, which counteracts the improvement of teachers' practical operation level and improves the level of “double qualification” teachers in Higher Vocational Colleges [4].

3.4 Improve the Comprehensive Quality of Students, Enhance the Level of Professional Education, Improve the Influence

“1 + X certificate system” reflects the inherent law of vocational education, which not only reflects the value of labor, but also lies in the shaping of excellent personality. It will make the professional teaching content more consistent with the needs of enterprises, cultivate more excellent graduates, and get the recognition of enterprises and society, so as to enhance the social influence of Higher Vocational Colleges and related majors.

4. Analysis of the Problems Existing in the Cultivation of Automobile Talents in Higher Vocational Colleges

4.1 Knowledge Content is Scattered and Lack of Systematic Integration

At present, the curriculum system of Automobile Specialty in higher vocational colleges is mainly composed of public basic courses, professional basic courses, professional core courses and professional elective courses. In the freshman year, it mainly studies public basic courses and professional basic courses, in the sophomore year, it mainly studies professional core courses and in the junior year, it mainly studies comprehensive training and professional elective courses. In the professional course content learning, knowledge is scattered learning, many knowledge points lack of systematic integration, often knowledge points according to the classification of courses, scattered in different time, different courses for learning, knowledge points are seriously cut in time and space, it is difficult to form a complete system. For example, it is difficult for students to apply the knowledge of “automobile starting system and fault diagnosis system” to form a complete knowledge system.

4.2 There is No Unified Standard for the Cultivation of Technical Skills and Abilities

The cultivation of students' Vocational and technical ability is the core goal of higher vocational talents cultivation. There are many higher vocational colleges offering automobile majors in China. There are differences in different regions, different school running conditions, teaching levels and regional cultures. Different schools have no unified standards for vocational ability, which leads to the lack of collaborative development of automobile graduates' vocational ability Show your advantages.

The advantage of “1 + X” certificate system is that the vocational skill certificate has a unified standard, which can effectively solve the above problems. Through the integration of course certificate, the modular curriculum system is
constructed, and the knowledge points are integrated and reconstructed according to the typical work tasks, which is conducive to the students' systematic learning, better grasp and use of knowledge and skills; in the national scope, the construction of a unified vocational skill standard is conducive to the development of vocational education Promote the standardization of training content, make the curriculum system of automobile more scientific and reasonable.

4.3 The Training of Compound Skilled Talents is Insufficient.

Under the background of economic globalization, the development of vocational education puts forward more challenges and opportunities. There are many kinds of Vocational Education in our country, which are complicated, and the professional training is relatively single. From the national perspective, we advocate the popularization of vocational education, increase the training efforts, cultivate compound technical and skilled talents, expand the enrollment of talents, and increase various training methods. However, the cultivation ability of compound talents is insufficient, which is difficult to meet the talent demand of the current industry.

5. Construction of Higher Vocational Automobile Talents Training System under “1 + X” Certificate System

5.1 Certificate Based Professional Courses and Modular Courses

Referring to the assessment standard of “1 + X” Certificate in the field of automobile specialty, the main vocational skill level certificates of automobile specialty include the vocational skill level certificate of automobile application and maintenance and the vocational skill level certificate of intelligent new energy automobile. These certificates are related to the “five systems” and “ten modules” of automobiles. The construction machinery major is similar to the automobile major, and it can also carry out similar course modular setting. Each certificate module includes junior, middle and senior [5]. After passing the examination, each certificate module obtains corresponding credits. Students in the examination of the corresponding module skill level certificate, realize the course content and professional standards docking, teaching process and production process docking, let students better grasp the course content.

5.2 Based on the Requirements of Enterprise Position, Course Certificate Content Integration

“1 + X” vocational skill level certificate standard guides the direction of automobile professional courses. The content of certificate assessment starts from the post demand of automobile industry, based on the typical work tasks of the post, takes the promotion of professional ability as the standard, reasonably constructs the curriculum structure, curriculum standards and curriculum content, optimizes the personnel training structure and improves the training quality through the integration of curriculum and certificate. The task is decomposed according to the assessment objectives in the vocational skill level certificate, and the task scheme is decomposed into specific projects, and the projects are corresponding to professional knowledge points to form systematic teaching.

6. The Principle of “1 + X System” and Talent Training Program of Automobile Specialty

6.1 The Training Objectives Should Be Unified.

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The training objectives of the corresponding professional skills and professional certificates should be consistent with the teaching objectives of the corresponding professional skills.

6.1.2 The Evaluation Standard Should Be Unified.

Learn from the skill assessment standard of “x certificate”, adjust and optimize the assessment standard of professional courses, and unify the assessment standard of theoretical content and practical content.

6.2 The Unity of Teaching Staff and Teaching Resources.

In order to integrate automobile specialty with “1 + X system”, the construction of teaching staff and teaching resources should be carried out simultaneously. Schools should provide training and guidance in knowledge, skills, professional ethics, professional norms, assessment and job evaluation, and encourage teachers to change the teaching process of certificate system.
The integration of teaching resources and teaching methods. Teachers should adjust and optimize personal curriculum reform resources, including teaching materials, work manuals, training work orders, etc., introduce modern technology for content simulation and virtual teaching, and use vr virtual technology to improve students' learning interest and teaching efficiency.

6.3 Unification of Training Conditions and Certificate Examination Contents

The construction of training room should meet the basic requirements and assessment standards of certificate assessment. The training content of certificate and course should also be integrated. In 2019, the Ministry of Education issued the “construction standard of practical teaching conditions for new energy vehicle application and maintenance specialty in Higher Vocational Schools”, which emphasizes strengthening the construction of training room, establishing the training room mode of course certificate integration, unifying the assessment content, establishing the basic standards and principles for the construction of training room, and pointing out the hardware foundation for talent training and certificate assessment.

7. Conclusion

The reform of 1 + X certificate system is a major change in vocational education. There are many problems to be solved in the process of implementation, which are comprehensive and complex, and need the unified coordination of various departments such as school, enterprise, government and work. Schools should actively implement the spirit of all kinds of documents to ensure the personnel, financial and material security of the major; enterprises should participate in the certificate integration, which can not only cultivate excellent potential employees, but also enhance the depth and strength of industry education integration; the government should actively increase the guidance to ensure the efficient implementation of the system. Higher vocational colleges should set up a leading group at the school level to achieve the compaction of responsibilities and ensure the timely implementation of various measures. In this paper, the research of personnel training, hoping to play a certain role in promoting the implementation of the policy.

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References


