

A Study on Talents Cultivation Mode of Enterprise-dominated Modern “Dual-Certificate” Apprenticeship

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Abstract: The enterprise-dominated “dual-certificate” system is a powerful measure for the high vocational colleges to cultivate the skilled talents fitting social demands. Yet many aspects in current talents cultivation mode are not adaptive to the “dual-certificate” system. The reform thinking for talents cultivation mode under the “dual-certificate” system is proposed according to the teaching practice, to boost the development of modern apprenticeship and enhance combined efforts of school and enterprise.

1. Introduction

The “modernity” of modern apprenticeship is relative to “tradition”, as “apprenticeship” is not a new-fashioned education form but has been formed specific to different countries since the emergence of handcraft production. The “master” with certain skills and experience directly imparts the skills to “apprentice” by hand. So to speak, the modern apprenticeship is the product of effective incorporation of college’s vocational education and the traditional apprenticeship ^[1].

The talents cultivation mode is a system composed of mutually coordinating elements like the guiding concept, goal, content, mode, quality evaluation criteria of talents cultivation, while the “dual-certificate” system is composed of academic diploma and vocational certificate. The enterprises aggressively carry out the system of vocational certificate and attach equal importance to the academic diploma and vocational certificate as well as actively unfold the training and appraisal of vocational skills to make the students learn vocational abilities by combining with respective majors. By doing so, the students can understand the vocational skill requirements of their majors in advance, thereby improving the vocational quality, practical ability and employment capacity by accumulating some work experience during school time. Then the adaptive phase is largely shortened after employment ^[2]. Besides, the introduction of “dual-certificate” system has also raised higher requirements on the reform of cultivation mode for the higher vocational talents ^[1].

2. The problems in the implementation of higher vocational colleges’ “dual-certificate” system

In the actuality of Chinese higher vocational colleges, there are many disharmonious elements between the general education mode and the dual-certificate system pressing for reform.

2.1 Mismatching between talents cultivation goal and the vocational certificate system

Currently the majority of higher vocational education in China is still dominated by the traditional mode, i.e. the discipline-oriented education, which has too broadly positioned cultivation goal and fails to set the corresponding course system closely in step with the requirements of a certain vocational post. This does not match the examination of vocational certificate which is according to vocational classification and vocational post standard and stresses the vocational requirements of the post, leading to the error between cultivation of vocational talents and examination of vocational

certificate in terms of scope and standard.

2.2 Unreasonable faculty structure and teaching method

Currently the faculty in best part of higher vocational colleges remains composed of technical theory-oriented teachers and is particularly in shortage of “double-functional” production and internship instructors. Teacher teams engaging in practical teaching are not established for teaching side by side with the theory-oriented teachers teams, which has formed a severe barrier to improvement on students’ vocational skills and hindered effective implementation of the vocational certificate system.

Strengthened skill training, which is one of key distinctions of higher vocational education from the regular undergraduate and junior college education, cannot do without training base, necessary equipment, materials and tools, etc. The weak input by the local government-the main source of fund for the higher vocational colleges-into higher vocational colleges due to a good many factors leads insufficient construction of teaching hardware especially the training bases and places, and can only provide backward, aged or severely inadequate internship and experimental means, thereby making it difficult to improve the students’ practical operation and hand-on abilities ^[3].

3. Reform thinking for the cultivation mode of “dual-certificate” system

To deepen the reform on talents cultivation mode of higher vocational education to adapt to the market demands and cultivate dual-certificate talents, it is inevitably necessary to reform the curriculum model of higher vocational education as soon as possible and expedite the construction of faculty team and training base. Besides, the implementation of dual-certificate system raises higher requirements on higher vocational education, such as how to establish theoretical and practical curriculum system according to the knowledge and skill requirements of vocational posts, how to develop more proper teaching materials and effective teaching methods according to the demands of vocational abilities, how to find out more efficient students appraisal methods to advance the reform on talents cultivation mode, etc., which are all important tasks before the higher vocational education. Now, following opinions are proposed for the reform on talents cultivation mode by combining the author’s personal education experience and feeling based on the existing implementation of “dual-certificate” system.

3.1 Revise the teaching plan according to the standards and requirements of vocational qualification

The teaching program and curriculum provision for the majors in higher vocational colleges should be formulated by combining corresponding vocational qualification standards and authentication specification of vocational skills, to make the professional knowledge cover the authentication and examination content of vocational skills for corresponding posts. Following relationships should be well handled in formulating the programs: The first is about the relation between theory and practice. For this, the basic theories should be application-oriented, necessary and adequate, and the cultivation of practical ability should be emphatically enhanced by penetrating it through the whole teaching, highlighting the link of practice teaching, and increasing the time and content of practice learning. Besides, the teaching program should embody and develop the vocational courses block fit for vocational posts (posts block) and arrange new teaching modules according to the cultivation goal and teaching requirements ^[4]. The schools can offer several independent experimentation classes, practical training classes and comprehensive practice classes according to the curriculum module and stimulate the authentication module of vocational qualification standard as far as possible and set corresponding independent courses.

3.2 Build the curriculum system and new teaching model with “certificate” as orientation

The original curriculum system of higher vocation education stresses “being geared to the needs of job” and pursues completeness of curriculum while ignoring the integration and reorganization of

curriculum. In contrast, the “modular” curriculum system fully considers the national vocational qualification standards and requirements on station abilities for related majors. It firstly develops the big vocational module which targets coverage of professions group, and is oriented towards the vocational qualification and composed of “small modules” targeting the responsibilities contained in a certain profession. Then the curriculum content is further broken down into concrete items according to the standards and requirements of national vocational qualification. The “modular” teaching system is centered on skills training by cultivating the necessary knowledge, skills and capacities for a certain vocational post, and stresses making students can obtain and obtain more certificates.

3.3 “Worksheet”-based reform on practical teaching

According to the characteristics of higher vocational education and the ability-centered teaching mode and by borrowing ideas from the foreign experience in practical teaching in this domain, the practical training content is divided into three modules of training in basic skills, professional skills, technical application and innovation based on the cultivation goal of a major. Then the concrete practical training courses are defined according to the requirements of each module to formulate the teaching program of practical training in each course. Our department’s test and service major offers several items of basic skills practical training such as metal processing, mechanical drawing and mapping, level-1 repair and driving of automobiles, etc. There are also items of vocational skills practical training such as automobile engine, chassis, electrical equipment, electrical control of engine and electrical control of chassis, etc. to meet the requirements of related vocational qualification standards for the industry. In recent years, the specialized training courses in vehicle inspection and test, troubleshooting and comprehensive skills, etc. have been set to meet higher demands for industrial ability and improve the practical analysis ability of students. These have enriched and perfected the practical training items and content, and more guaranteed sufficient practice hours for students.

In terms of implementation, the training content of each course is partitioned according to the related vocational capacity standards and implementation requirements of practical courses into several basic training units that can be performed independently, correspond to related items, and are designed with related worksheets. The worksheet comprises the main content of traditional experimentation (practical training) report sheet, yet is different from the traditional one in that it contains the concrete operation methods and implementation steps of different items, the record and summary of related data and phenomena, and related industry specifications and requirements. It serves as the guidance basis of internship and practical training. For example, each of the items under practical training in automobile chassis (such as dismounting of clutch and its control mechanism, assembly and adjustment of main retarder, dismounting of brake and principal assembly of drive device, replacement of brake strip, etc.) has corresponding worksheet developed, which can both cultivate the students’ ability to execute the industry codes and lower the work intensity of teachers.

3.4 The teaching method reform based on cultivation of “station execution” ability

The comprehensive skills of students are formed via progressive cultivation in application ability of vocational technology and comprehensive practical abilities based on the basic practical abilities. This entails adopting proper and effective teaching methods for different phases. Besides, the teaching order is no longer the traditional sequence of first class and then practice but considers “integration of theory and practice”. Our department has carried out this integrative field teaching method by making the teachers perform field demonstration of operation using teaching equipment such as experimental bench, finished automobile and automobile parts while explaining the theories or even making all or part of students operate personally some content during the teaching. By doing so, the abstract theoretical knowledge was rapidly visualized, which significantly lived up the class atmosphere and motivated the students’ learning initiative, thereby obtaining extremely good feedback from students. Nevertheless, the limited teaching equipment, site and faculty, etc. have hindered its extensive popularization.

In addition, the current excessive prioritization of cultivation in hand-on ability and operation over the professionalism and team spirit has influenced the employment and development. Take the experiments, internship and practical training for example, a great many students or even the teachers themselves ignore the industry and operation specification, such as the most universal phenomena of problematic putting of tools and parts, failure to use tools as per specification, improper operation sequence and methods, etc., and the tools either lie scattered or get lost after practical training. Such basic qualities cannot be guaranteed, not to mention improvement on and cultivation in comprehensive abilities. Thus, the teaching should enhance cultivation of students' execution abilities and teach them to not ignore the workplace codes from basic classified putting of tools to comprehensive training in analytical skills. The cultivation in students' execution abilities can make the most of merits of "work sheet" by strictly following its requirements and steps in execution and can also incorporate the execution level of various codes into the examination. Besides, the strengths of "case teaching" can be fully leveraged. The common faults of vehicles in the auto service industry are the most real and effective cases for teaching, which are convincing and can excite learning interest and cultivate station ability of students. An excellent troubleshooting ability for common faults can guarantee the students become established in the industry. Successful implementation of "case teaching" requires certain practical engineering experience of teachers, which raises requirements on building of faculty.

3.5 Substitute the traditional theory examination with "certificate" examination mode

Many a higher vocational college has adopted the theory examination mode of universities in examining students for long, leading to students' cramming for examination instead of placing a premium on mastering of related skills. The elementary courses can be examined mainly via theory examination in the forms of open-book test, closed-book test or small thesis, etc., while the examination of professional courses should combine the theory appraisal and practice appraisal with the examination model of related vocational qualification certificates as reference and based on the examination content and requirements, allocate different proportions to theory and practice appraisals: lowering that of theory appraisal and increasing practical appraisal. Wherein, the examination for items should be comprehensive evaluation on the whole learning process instead of a final summative evaluation.

The usual results of theory courses are generally embodied in the form of assignments such as after-class ask&answer, etc., which fails to deliver a satisfactory effect. The solutions to this are discussion in groups, case analysis, extracurricular thesis, etc. The teaching content of many vocational courses contains practical training items, each of which should be set as corresponding to one examination requirement by combining the standard and requirements of related vocational qualification certificates, and should also be reflected in the final summative examination, to constitute the ultimate results. Wherein, the practical examination is recommended to be not of mark system, as the appraisal on operation ability and technical level is performed according to the national vocational qualification standards, and the students not passing can be granted several opportunities until they master the required skills.

The teaching and certificate obtaining can be made compatible by implementing the "dual-certificate" cultivation system and building the "modular" teaching system. Finally the academic examination and vocational qualification examination can become compatible by realizing substitution of examination for some courses with qualification certificates when the dual kinds of certificates are perfectly docked.

4. Summary

The paper builds the frame of the talents cultivation mode of enterprise-dominated modern apprenticeship fit for local features with the domestic and foreign development of modern apprenticeship as reference. The "dual-certificate" system with both academic certificate and vocational certificate enables the students to improve ability for employment and career selection to

get the upper hand in the intense employment competition. The employment picture of graduates in recent years shows that the “dual-certificate” skilled talents holding both diploma and vocational certificate are highly desirable. Although the “dual-certificate” system is being widely applied in many higher vocational colleges yet with unequal effects, it is believed that the colleges can unquestionably realize interconnection and compatibility of “dual certificates” by comprehensively enhancing the adjustment of reform direction and efforts of talents cultivation mode based on combining respective conditions and implementation of teaching, to fully take advantage of limited education costs and resources to cultivate more high skilled talents meeting the social and industrial demands.

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