



Journal Homepage: [-www.journalijar.com](http://www.journalijar.com)

## INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/12318  
DOI URL: <http://dx.doi.org/10.21474/IJAR01/12318>



### RESEARCH ARTICLE

#### PRACTICE AND THINKING OF MODERN APPRENTICESHIP SYSTEM IN HIGHER VOCATIONAL COLLEGES

Luo Neng

Chongqing Aerospace Vocational and Technical College Jiangbei District, Chongqing 400021, China.

#### Manuscript Info

##### Manuscript History

Received: 10 November 2020

Final Accepted: 12 December 2020

Published: January 2021

##### Key words:-

Modern Apprenticeship In Higher Vocational Colleges, School-Enterprise Cooperation, Work-Study Combination, Work-Study Alternation

#### Abstract

The modern apprenticeship system is considered the most effective educational form to implement the training mode of school-enterprise cooperation and work-study combination. In 2015, 2017, and 2018, the Ministry of Education established three modern apprenticeship pilot unit batches. Chongqing Aerospace Vocational and Technical College is the first batch of modern apprenticeship pilot institutions of the Ministry of Education. Chongqing Aerospace Vocational and Technical College has made practical explorations in five aspects, such as the integration of enrollment and recruitment, the construction of the standard system, the construction of teaching resources, the reform of personnel training mode and the construction of management mechanism, and shared four pilot experiences: careful selection of pilot majors, careful selection of pilot enterprises, grasping the essential characteristics of modern apprenticeship and meeting the connotation requirements of modern apprenticeship in essential teaching documents.

Copy Right, IJAR, 2021., All rights reserved.

#### Introduction:-

The modern apprenticeship system is a vocational education system that combines traditional apprenticeship training with modern vocational education, enrolls students and recruit's workers jointly by schools and enterprises, teaches knowledge and skills jointly by teachers and masters, trains students on the job, and trains high-quality skilled talents needed by industrial enterprises jointly by schools and enterprises<sup>[1]</sup>.

In February 2014, Premier Li Keqiang presided over the State Council executive meeting, determined the tasks and measures to accelerate the development of modern vocational education, and put forward for the first time the "pilot of modern apprenticeship system with joint enrollment and training between schools and enterprises." In May of the same year, the State Council issued Decision on Accelerating the Development of Modern Vocational Education (Guo Fa [2014] No.19), made specific requirements for "carrying out the pilot program of modern apprenticeship with joint enrollment and training between schools and enterprises, improving support policies, and promoting the integration of schools and enterprises to educate people," marking that modern apprenticeship has become an essential strategy for national human resources development. In August of the same year, the Ministry of Education issued the Opinions on Developing the Pilot Work of Modern Apprenticeship System (Jiao Zhi Cheng [2014] No.9) and formulated the work plan. In July 2015, the Ministry of Human Resources and Social Security and the Ministry of Finance jointly issued the Notice on Piloting the New Apprenticeship System in Enterprises (No.127 [2015] of the Department of Human Resources and Social Security), which made arrangements for the apprenticeship system led by enterprises.

**Corresponding Author:-LuoNeng**

Address:-Chongqing Aerospace Vocational and Technical College Jiangbei District, Chongqing 400021 China.

In August 2015, the Ministry of Education selected 165 units as the first batch of modern apprenticeship pilot units and industry pilot units, including 17 regions, 13 industry associations, 8 enterprises, 100 higher vocational colleges, and 27 secondary vocational colleges. In August 2017, the Ministry of Education identified the second batch of 203 modern apprenticeship pilot units. In September 2018, the Ministry of Education identified the third batch of 194 modern apprenticeship pilot units. The Ministry of Education requires the pilot colleges to learn from the world's advanced apprenticeship training methods, based on China's national conditions, deepen the vocational education personnel training mode of integration of production and education, school-enterprise cooperation, work-study combination, and integration of knowledge and practice, improve the teaching management and operation mechanism adapted to the modern apprenticeship system, promote the improvement of personnel training quality, and explore the modern apprenticeship system with Chinese characteristics in which schools and cooperative enterprises educate people with dual subjects. The pilot's main tasks include the integration of enrollment and recruitment, the construction of the standard system, the construction of teaching resources, the reform of personnel training mode, and the construction of management mechanism.

In 2015, the Ministry of Education selected Chongqing Aerospace Vocational and Technical College as the first batch of modern apprenticeship pilot institutions. The school takes Chongqing Rocket Electronics Co., Ltd., Chongqing Haier Intelligent Electronics Co., Ltd., Easton Elevator Group (Chongqing), Otis Elevator Management (Chongqing) Co., Ltd., and other brand enterprises as cooperative enterprises. It takes two majors of applied electronic technology and mechatronics technology as pilot majors of modern apprenticeship. According to the requirements of the documents of the Ministry of Education, the school and the cooperative enterprises worked out the pilot program and work assignment book together and started to set up pilot classes in 2016. By 2018, the school had set up six modern apprenticeship classes with a total of 190 students. During the pilot period, the school took the initiative to contact the enterprises, and the enterprises actively cooperated with the schools. The pilot tasks and work progressed smoothly, and the pilot objectives were well completed. In 2018, the school's current apprenticeship pilot project passed the Ministry of Education's acceptance, and the pilot results also won the first prize of Chongqing's third comprehensive education reform results in 2019.

### **The practice and exploration of the modern apprenticeship system in higher vocational colleges:**

#### **1) Implementation of a pilot program for the integration of enrollment and recruitment**

Implementing the integration of enrollment and recruitment is the first requirement and logical starting point of the modern apprenticeship system pilot. The integration of enrollment and recruitment, and students becoming prospective employees of cooperative enterprises, are the interests and responsibilities of cooperative enterprises and are the prerequisites for realizing "double-subject" education. To realize the integration of enrollment and recruitment for cooperative enterprises and schools, including three forms: enrollment before recruitment, enrollment after recruitment, and enrollment as a recruitment<sup>[2]</sup>. Each of the three forms has its advantages and disadvantages. Under the condition of following the relevant regulations of Chongqing and fully considering the region's specific conditions, the school has adopted the method of recruiting students before recruiting. Chongqing Aerospace Vocational and Technical College and the cooperative enterprises formulate and implement the enrollment and recruitment plan. Starting from Grade 2016, each cooperative enterprise will send its human resources specialists to preach to the freshmen majoring in the pilot program, introduce the enterprise's job requirements and the advantages of modern apprentices in formulating classes, and organize interested students to sign up voluntarily. According to the employment standards, the enterprise further selects students through examination and interview and forms a modern apprentice system of 20-30 people based on merit. The students become prospective employees of the cooperative enterprise. At the same time, the school organized and signed a tripartite agreement among the school, enterprises, and students to protect students' relevant rights and interests in their study and work.

#### **2) We have promoted the construction of a standard system.**

The construction of a standard system is a vital content and means of modern apprenticeship pilot. The pilot of the modern apprenticeship system in vocational colleges, Different from the traditional school "single subject" education and teaching, is also different from the simple "internship" and "order training" modes; it is a new "double-subject" education model with the characteristics of "double identities" for students, "double tutors" for teaching and "double venues" for learning. Its educational and teaching organization form and rating form are entirely different from those before; Schools should meet the requirements of docking professional settings with industrial needs, docking curriculum content with professional standards, docking teaching process with the production process, Only by jointly developing high-level modern apprenticeship professional teaching standards, curriculum standards, mentor

standards, training condition construction standards, academic evaluation standards and other related standards with cooperative enterprises can the implementation of modern apprenticeship pilot be promoted. At the beginning of the pilot project construction, Chongqing Aerospace Vocational and Technical College jointly developed the professional teaching standards and personnel training programs for the modern apprenticeship pilot class. It jointly developed the curriculum standards, mentor (master) standards, post-ability standards, academic assessment standards, etc., for the pilot specialty. The standard system's construction has standardized the follow-up behavior of the modern apprenticeship pilot and ensured the quality of education and teaching.

### **3) The construction of teaching resources has been carried out.**

The construction of teaching resources is the vital content and basic guarantee of the modern apprenticeship system pilot. Teaching resources are various available conditions such as materials for the effective development of teaching, usually including teaching materials, cases, movies, pictures, courseware, etc., as well as teacher resources, teaching aids, infrastructure, etc. In higher vocational colleges, we generally think that curriculum resources, practical teaching conditions, teacher resources, and information management are the primary teaching resources. During the pilot project construction, the joint cooperative enterprise of Chongqing Aerospace Vocational and Technical College selected excellent teachers in the school to form an on-campus mentor team according to the mentor (master) standard and selected excellent employees in the cooperative enterprise to form an enterprise master team. The school mentor and the enterprise master each guide 5-8 students (apprentices) in the same grade, and each student (apprentice) has both the school mentor and the enterprise master. School instructors and enterprise masters have work manuals, and students (apprentices) have college manuals, requiring timely reporting of education and teaching-related information, which is an integral part of performance and performance assessment. The school has also hired national skill masters and model workers in these two pilot specialties to set up skill master studios to supplement mentor resources. The school and the cooperative enterprises have jointly improved the on-campus training bases for the two pilot specialties and the cooperative enterprises' job sites to accept students' practical training. The school and the cooperative enterprises have jointly built the curriculum system, teaching standards, curriculum standards, and teaching resource bank of the two pilot specialties, jointly built six excellent online open courses, and jointly published nine teaching materials. The school has also strengthened the connection between tutors (masters) and students (apprentices) using the Xixun cloud platform, WeChat group, and QQ group.

### **4) Explore the reform of talent training mode**

Modern apprenticeship is a combination of traditional apprenticeship training education and modern class school education. Modern apprenticeship is not a talent training mode as a "teacher-student" management mode, a teaching organization mode, and a school-enterprise cooperation education mechanism. Its essence is to effectively implement the vocational education concepts of "learning by doing" and "teaching by doing" under this management model. Therefore, the reform and innovation of talent training mode are still needed in the modern apprenticeship pilot. The reform of the talent training mode of "work-study combination" is the core content of the modern apprenticeship pilot, and each pilot institution needs to explore and innovate the talent training mode with "work-study combination" as the core content. Chongqing Aerospace Vocational and Technical College cooperated with Chongqing Rocket Electronics Co., Ltd. and Chongqing Haier Intelligent Electronics Co., Ltd implement the talent training mode reform of "double track and double division, alternating work and study" in applied electronic technology specialty. Here, "double track" refers to a track of training professional knowledge and ability in higher vocational colleges and a track of training quality and ability of enterprise employees; "Double teacher" refers to the school tutor and enterprise master; "Work-study alternation" means that in the first five semesters, a study in school four days a week, study with the master in the enterprise one day, and work in the enterprise in the last semester. The school cooperated with Easton Elevator Company and Otis Elevator (China) Co., Ltd., and explored and practiced the reform of the talent training mode of "double subjects and three sections of education between school and enterprise" in electromechanical integration.

### **5) Construction of management mechanism**

Establishing a set of useful teaching management and operation mechanisms suitable for a modern apprenticeship system is an essential guarantee for the pilot work of a modern apprenticeship system, which is also the pilot's primary purpose. Because modern apprenticeship is the innovation of management mode, organization mode, education mechanism, pilot colleges, and cooperative enterprises need to establish teaching operation and quality monitoring system and strengthen process management according to the characteristics of modern apprenticeship ensure the smooth development of the pilot. The management system's formed series is the main content of popularization after the pilot of the modern apprenticeship system. Before the pilot examination, Chongqing

Aerospace Vocational and Technical College set up a project construction leading group headed by the principal, a project construction office led by the Academic Affairs Office, and two professional joint ventures work for implementation groups. In the first year of the pilot, the school authorized the professional pilot work implementation team to explore the modern apprenticeship pilot's management system. On this basis, in the second year of the pilot, the project construction office summarized the pilot systems, joint cooperative enterprises, and school experts. Discussed and formulated the "Management Measures for Modern Apprenticeship Pilot Projects," "Management Measures for Enrollment of Modern Apprenticeship Pilot Professionals," "Implementation Opinions on Modern Apprenticeship Pilot Talents Training Program," "Interim Measures for Modern Apprenticeship Teaching Management," "Selection Standards and Responsibilities of Modern Apprenticeship School Tutors," "Management Measures for Modern Apprenticeship Students," "Modern Apprenticeship Quality Control System," "Credit System and Flexible Academic System Management Measures," etc. Thirteen systems have standardized the whole process of modern apprenticeship training from project construction, teaching management, teaching quality monitoring, and teacher management, and ensured the pilot specialty's smooth operation.

### **The experience and thinking of modern apprenticeship in higher vocational colleges:**

#### **A) the choice of pilot majors should be careful**

The modern apprenticeship system is considered the most effective educational form to implement the training mode of school-enterprise cooperation and work-study combination. However, not all majors can adopt modern apprenticeship indiscriminately. Mr. Cui Fazhou believes that apprenticeship has a pronounced effect on improving personnel training quality in majors with high operational skills, such as ethnic craft inheritance, machining, and equipment maintenance. He also believes that the seven majors should carefully choose the "modern apprenticeship system" [3]. The author thinks that among the seven categories, there is no need, no need, and no way to adopt the modern apprenticeship system for the majors with mature work-study combination mode, the majors with well-run productive training bases in schools, the majors with weak skills in initial jobs and the majors with vital professional confidentiality. One blindly pursues the pilot project and blindly chooses the major without false thinking, just like some majors in the three batches of pilot projects of the Ministry of Education, it is challenging to meet the requirements after the pilot project.

#### **B) The selection of pilot enterprises should also be cautious.**

Because of the requirements of the integration of enrollment and recruitment, in addition to the above-mentioned careful selection of corresponding professional enterprises, the enterprises to be selected for the modern apprenticeship pilot need to accept the employment of graduates of an absolute scale of pilot majors and also have the resources and ability to participate in the education process. Therefore, it is necessary to develop a modern apprenticeship system to choose enterprises with an absolute scale, strong employment demand, and the ability to educate people as pilot cooperation units. In the notice document of establishing a modern apprenticeship system in secondary vocational schools, There are regulations on the selection of cooperative enterprises; It is required that the pilot enterprises have a certain amount of employment demand every year. Enterprises above designated size with an annual primary business income of not less than 20 million yuan shall have standardized management, advanced technology, complete internship equipment and safety protection, and a right working environment. They shall provide positions for pilot professional internship rotation to meet the requirements of a sufficient number of outstanding technical personnel as masters of students—those who have not received other illegal pilot projects for environmental protection and production safety.

#### **C) we should grasp the essential characteristics of the modern apprenticeship system.**

Realizing the integration of enrollment and recruitment, implementing a double tutorial system, the double identity identification of students (apprentices), and the teaching organization form of work-study alternation are the essential characteristics of the modern apprenticeship system pilot. The integration of enrollment and recruitment is the logical starting point and value of the modern apprenticeship pilot system. The implementation of the dual tutorial system and the identification of students' dual identities (apprentices) are the definitions of the relationship between teachers and apprentices in the modern apprenticeship system. Without the relationship between teachers and apprentices, where does the modern apprenticeship system come from? The mentor (master) here is the mentor of knowledge learning and skill training and the mentor of quality cultivation and life growth. Only in this way can the value of mentor (master) in the modern apprenticeship system be truly reflected. The teaching organization form of work-study alternation is determined by the characteristics of "double subject education," "double tutor teaching," "double learning site," and "double learning site learning." The Ministry of Education requested in the Notice on Promoting Modern Apprenticeship System in an All-round Way (No.12 [2019] of the Ministry of Education) that,

Higher vocational colleges that implement modern apprenticeship system should implement flexible learning time and credit system management according to the actual production of enterprises and apprentices' work and life, combine education and training, work-study alternation, on-the-job training, and actively explore the "3+2" training model of three days in enterprises and two days in schools," which is a further explanation of the organizational form of work-study alternation teaching.

**D) The necessary teaching documents should meet the connotation requirements of the modern apprenticeship system**

The modern apprenticeship system is different from the order training. The modern apprenticeship system's pilot class is not the original "order class" or the original "naming class." The four essential characteristics mentioned above must exist in the necessary teaching documents such as the personnel training plan, professional construction standards, curriculum standards, practical teaching standards, etc., of the pilot specialty, which is the focus of the pilot work of the modern apprenticeship system. For example, the pilot specialty's personnel training program should be reflected and jointly compiled with cooperative enterprises. To embody the credit system and flexible educational system, To reflect the employment departments and positions of the cooperative enterprises, To embody the post standards of cooperative enterprises, In order to embody the talent training mode of combining work with study, In order to embody the joint development of curriculum system based on working process with cooperative enterprises, The curriculum and teaching process should distinguish between the learning site and the attribution of the tutor. The description of the professional curriculum should reflect the teaching site, the tutor's requirements, and the teacher's requirements. The practical teaching arrangement should reflect the "alternation of work and study." The teaching management should reflect "double-subject education." The graduation requirements should include the requirements of "internal quality" and "enterprise quality," etc.

**Acknowledgment:-**

Research and Practice of Diagnosis and Improvement of Internal Quality Assurance System in Higher Vocational Colleges" (ProjectNo.: 171036), a significant project of higher education teaching reform in Chongqing in 2017.

**References:-**

1. Yin Haoliang. Modern Apprenticeship System and Construction of China's Universities of Applied Sciences [J]. Xueyuan, 2015 (09)
2. Prynne. Practice and Exploration of Modern Apprenticeship Enrollment and Recruitment Integration Model [J]. Science and Technology Vision, 2019 (19)
3. Cui Fuzhou. Careful Selection of "Modern Apprenticeship System" [EB/OL] for Seven Major Types.