

## Research on Talent Training Mechanism for IT Workshop

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### Abstract

**Relying on the IT Workshop as the carrier, through the joint teaching of teachers and enterprise masters, and in accordance with the modern apprenticeship talent training mode, we mainly cultivate skilled talents with craftsmanship spirit and exquisite skills. At the same time, the enterprise will introduce the real working scene, real engineering cases, real working process and real commercial projects into the workshop, realize the docking of professional setting and industrial demand, and cultivate compound and innovative talents to meet the development needs of the enterprise.**

### Keywords

**IT Workshop, Modern Apprenticeship, Craftsman spirit, Talent Training.**

### 1. Introduction

The implementation plan of national vocational education reform puts forward that vocational education should cultivate and inherit the spirit of craftsman. As the main position and cradle of technical personnel training, higher vocational colleges must take the spirit of craftsman as the foundation of moral cultivation, and constantly explore the methods and paths suitable for the cultivation of craftsman spirit in higher vocational colleges, so as to cultivate more compound technical personnel with innovative ability for the society [1-2].

The new generation of information technology is one of the seven strategic emerging industries determined by the State Council. In 2015, the State Council issued Made in China 2025, proposing to take the new generation of information technology industry as a key area and vigorously promote its breakthrough development [3]. In the same year, the State Council actively gave guidance to the Internet plus action. In 2016, the state issued the thirteenth five year plan for national economic and social development in People's Republic of China, which clearly stated: "we should focus on breaking through the key technologies of big data and cloud computing, implementing the Internet plus action plan and implementing the national big data strategy. In the same year, the State Council issued the 13th five year plan for the development of national strategic emerging industries, which proposed that "by 2020, the new generation of information technology industry and five other strategic emerging industries will be developed into a new pillar with an output value of 10 trillion yuan." The new generation of information technology industry has become an important way for China to enhance its international competitiveness, ensure national security, change the mode of economic development, and drive the growth of emerging economy. It has also become an important starting point for regions to promote the transformation and upgrading of industrial structure and accelerate the transformation of economic development mode. China has successively promoted emerging industries such as Internet of things, cloud computing, big data and artificial intelligence as national strategies. However, with the rapid development of the industry, the talent gap of new information technology is expected to reach 9 million 500 thousand in 2025 [4].

## 2. Research Significance

With the rapid development of economy, the expansion of the scale of information engineering and the development of the connotation construction of the professional group do not match. The gap between the requirements of the transformation and upgrading of the information industry for talents and the training objectives of IT talents is becoming increasingly serious. This project is dedicated to the reform of talent training mode. Schools and enterprises jointly raise funds, discuss professional positioning and jointly build software technology talent training programs, contribute to the training of information technology talents in Jiangsu Province, and seek high-speed development for the construction of professional groups.

### 2.1. Benefit to Explore the Training Model for IT Skilled Talent

With the expansion of higher education, vocational education has achieved a leap in scale, but the rapid development of higher vocational education has not obtained enough social recognition, and the overall level of higher vocational students is still poor. The rapid development of information technology is one of the fastest fields of knowledge updating. The contradiction between the rapid development of information technology and the level of higher vocational students leads to the lack of autonomy and initiative, the spirit of hard study and improvement, and the lack of professional goals and ideals. Therefore, it is more necessary to strengthen the cultivation of craftsman spirit in higher vocational education. Vocational education should seize this favorable opportunity to actively explore the training methods of it skilled personnel that meet the needs of the development of the times.

### 2.2. Benefit to Upgrade Traditional Industries by IT

The development of traditional industries to high-end needs not only the craftsmanship spirit of continuous improvement, but also information technology, which is an important means to ensure the implementation of made in China 2025 strategy, promote the transformation and upgrading of manufacturing industry, and complete the structural reform of supply. The upgrading of traditional industries means that China's IT industry in the future needs more high-quality talents with excellent technical skills. Without the spirit of craftsman as the basis, it will become empty talk to promote the upgrading of traditional industries. Higher vocational IT education must take the needs of industrial upgrading as a breakthrough point, actively plan the training of it skilled talents in the new era, comprehensively serve the industrial upgrading, and contribute to the process of building a strong manufacturing country.

### 2.3. Benefit to Supply Side Reform for IT Vocational Education

IT vocational education needs supply side reform to solve the current development dilemma and improve the quality of education [6]. Making efforts on the supply side means that higher vocational IT education should improve the quality, link and effectiveness of education. It is an effective means of supply side reform to integrate the spirit of craftsman into the training of it skilled talents in higher vocational colleges. Through the cultivation of craftsman spirit, we should strengthen the quality management of education, improve the employability, enhance the overall image of higher vocational education, and effectively promote the development of IT Vocational education in Higher Vocational Colleges from the supply side.

## 3. IT Workshop based on Modern Apprenticeship

The modern apprenticeship system is a modern talent training mode proposed by the Ministry of education in 2014, which aims to deepen the integration of industry and education, school enterprise cooperation, through in-depth cooperation between schools and enterprises, and joint teaching by teachers and teachers, focusing on skills training for students. It is conducive to promoting the industry and enterprises to participate in the whole process of vocational

education, realizing the docking of professional settings and industrial needs, curriculum content and professional standards. The combination of teaching process and production process, graduation certificate and vocational certificate, vocational education and lifelong learning, and the cultivation of compound and innovative talents to meet the needs of enterprise development.

Craftsman workshop is a kind of school enterprise production education integration product based on modern apprenticeship system and project task driven system, aiming at cultivating new engineering technical and skilled talents with craftsmanship spirit [5]. The core concept of craftsman workshop is to introduce real work scenes, real engineering cases, real work processes and real business projects into the classroom, which is an extension of enterprise production and R & D institutions; according to the modern apprenticeship talent training mode, cultivate technical and skilled talents with craftsmanship spirit and exquisite skills.

On the one hand, the craftsman workshop is set up to cultivate high-end technical and skilled talents in the industry, on the other hand, it is the support platform and office place for the joint development of engineering projects and innovation projects by the cooperation of schools and enterprises. The colleges and universities are responsible for the daily use and operation of the craftsman workshop. The enterprise engineers provide regular on-site services. On the one hand, they cultivate the engineering and technical talents needed by the enterprises in the corresponding industries. On the other hand, they carry out the industrial business entities in the school, promote the local economic development, and form a combination of industry and learning, and a combination of industry and learning. The school running mode of integration of industry and education.

## 4. Practical Research

### 4.1. Research Ideas

To build workshops together with enterprises, through the introduction of enterprise technical backbone, project-based curriculum resource construction, real business project introduction, school enterprise scientific research cooperation and other ways, a team of craftsman workshops is composed of enterprise engineers, teachers and students to jointly complete the innovation of enterprise technical services, participate in the research and development of horizontal projects in foreign industries, accumulate project experience and improve teachers' professional skills. Scientific research ability and social service ability, improve students' professional and technical skills.

### 4.2. Implementation Plan

Institute and enterprise cooperation to create a new generation of Information Technology Group professional training project based on modern apprenticeship, such as cloud computing, big data, mobile application development, artificial intelligence. Relying on the IT workshop as the carrier, through the joint teaching of teachers and enterprise masters, and in accordance with the modern apprenticeship talent training mode, the two sides mainly cultivate students with skills, and cultivate skilled talents with craftsmanship spirit and exquisite skills. At the same time, the enterprise will introduce the real working scene, real engineering cases, real working process and real commercial projects into the workshop, realize the docking of professional setting and industrial demand, and cultivate compound and innovative talents to meet the development needs of the enterprise.

Curriculum: integrate real business project cases and real business project tasks into the content of the course; complete the teaching process by completing the real project development process, and adopt the integrated modular teaching, so that students' professional technology can get phased training through each module, connect the whole

teaching process with the production process, and combine theory with practice closely, so as to cultivate talents Seamless connection with the needs of professional posts to improve the quality and pertinence of talent training.

In terms of teaching mode, the school enterprise sports personnel are used to build teacher + engineer double mentors for workshop students, while the students, as apprentice + student, abide by the production specifications and complete the work modules, so as to complete the corresponding teaching modules and improve the ability of practice and innovation. The college selects excellent teachers for each workshop to be full-time teachers in the workshop, to be engaged in the teaching and management of the workshop; meanwhile, it introduces technical backbone engineers from enterprises as part-time teachers to guide the workshop students to complete the production, teaching, scientific research and other related tasks.

Adopting the mode of school enterprise cooperation and collaborative training, adhering to the educational concept of internal training and external introduction, giving full play to the respective advantages of Higher Vocational Colleges and excellent first-line enterprises, both schools and enterprises take the mode of building workshop base, introducing technical backbones from enterprises as part-time teachers to undertake professional practical training courses, At the same time, in-service teachers in higher vocational colleges should be trained to achieve the continuous development of professional skills and promote the development of teacher training mode.

The enterprise is responsible for selecting the college teachers with project experience for the workshop, and the teachers are responsible for the workshop teaching management and project scientific research; the enterprise is responsible for the real project research and development training for the workshop teachers, adopting the mixed training mode of on-site face-to-face teaching, online training, practice inspection, etc.

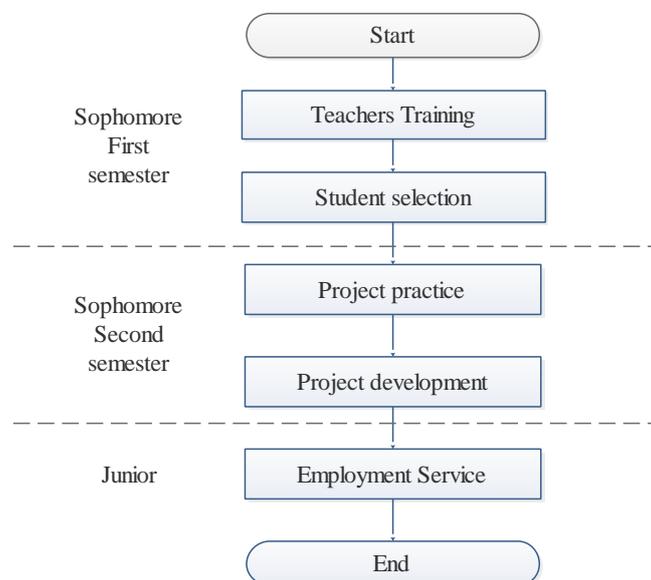


Figure 1. Implementation plan

## 5. Conclusion

With the basic idea of systematization of work process, the vocational education curriculum reform is carried out, and the teaching is integrated into the real project cases and project practice in the industry, so as to complete the students' learning tasks step by step in the project realization process. This mode can deepen the reform of school running system and mechanism, stimulate the vitality of teachers, and serve the development of regional economy; at the same

time, it can stimulate students' interest, cultivate students' comprehensive professional ability, and adapt to social development. The mature workshops can also absorb the employment work of excellent graduates, effectively expand the employment channels of graduates, and improve the quality of graduates' employment.

As an industrial operation entity integrating talent training, scientific research and scientific and technological services, the workshop adopts the talent training mode of school enterprise cooperation and project process oriented, and has the ability to independently carry out services and undertake scientific research and development projects, so as to obtain operating expenses, deepen the reform of school running system and mechanism, stimulate the vitality of teachers, and serve regional economic and technological development Economic development. The mature workshops can also absorb the employment work of excellent graduates, effectively expand the employment channels of graduates, and improve the quality of graduates' employment.

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