

## Research on the Craftsman Spirit Cultivation for IT Professionals in Higher Vocational Colleges

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**Abstract:** With the development of the times, the craftsman spirit is not limited to industrial production. For knowledge-intensive information technology (IT) enterprises, craftsman spirit is also indispensable, and its connotation has been further extended. The craftsman spirit is a kind of professional attitude, which is widely respected in today's society. As an important position for training IT professionals, it is crucial to cultivate professionals with the craftsman spirit in higher vocational colleges. The research on the cultivation of the craftsmanship spirit of IT skilled talents conforms to the needs of the times.

### 1. Introduction

*The National Vocational Education Reform Implementation Plan* proposed that vocational education should cultivate and inherit the craftsman spirit. As the main position and cradle of the cultivation of technical talents, higher vocational colleges must take the craftsman spirit as the basis of cultivating people, and constantly explore the methods and paths suitable for the cultivation of craftsmen spirit in higher vocational colleges. Information technology leads the era from tradition to intelligence, which is an important grasp of industrial transformation and upgrading. The integration of information technology and traditional industry requires a large number of high-quality IT technical personnel with professional skills and craftsman spirit. Every industry has a soul called the craftsman spirit. IT technicians are not buried in the production workshop, but also need the craftsman spirit of "keeping ideals and beliefs, understanding technology, innovating, daring to be dedicated". In the training of IT skilled personnel in higher vocational colleges, it is timely to carry forward the craftsman spirit. The research on the cultivation of the craftsmanship spirit of IT skilled talents conforms to the needs of the times.

American scholar Alec Foege pointed out that not only craftsmen own craftsman spirit, but also discoverers and inventors who use modern technology and tools should have the spirit of innovation to solve practical problems [1]. Mc Ghee believes that craftsman spirit embodied by the communication of each other. In the process of communication, it can also improve society [2]. Myers et al. put forward that professionalism is the deep-seated yardstick of individual employees in their work [3]. German scholar Rodolph concludes that German craftsman spirit is "slow", "steady first" and "speed second", "dedicated", and focusing on a single product to achieve the ultimate goal; "innovation", even small enterprises have independent R&D departments. He emphasizes that craftsmanship has become an important part of Germany culture [4-5]. In March 2016, Premier Li first mentioned the craftsman spirit in the Government Work Report of China. Since then, the craftsman spirit has been written into the Government Work Report for four times, which has led to blowout development of related research. Generally speaking, scholars at home and abroad have made important research on the connotation, content, value and cultivation of craftsman spirit. On the one hand, it provides a theoretical basis for the definition of modern craftsman and craftsman spirit; on the other hand, it provides a practical basis for the cultivation of craftsman spirit. However, there is still much room for research on the main contents and special requirements of the cultivation

of craftsman spirit in Vocational and technical colleges, as well as the ways to cultivate craftsmen' spirit in specific industries.

## 2. Contents of IT Craftsman Spirit

IT craftsman spirit includes refinement consciousness, loyalty quality, strong sense of responsibility and punctuality.



Fig. 1 Craftsman Spirit

Fineness is a kind of consciousness - fineness is a kind of consciousness, a kind of idea, a kind of serious attitude, a kind of culture of striving for perfection. As a high-tech industry, IT industry needs more personnel with fine consciousness. Details determine success or failure. Data is one of the important characteristics of fine work ability. It is necessary to train vocational college students to make every effort to refine every link in doing everything.

The core content of craftsman spirit is loyalty to work. People are not independent without faith, and loyalty to their duties is an important manifestation of craftsman spirit. To be loyal to one's duty, one must first possess the virtue of loyalty. Loyalty includes the value of integrity, compliance with company regulations, ensuring the safety of company assets, honestly producing work reports, and not leaking to competitors.

The sense of responsibility is an emotion that people consciously and voluntarily try their best to do everything they should do, and it is also the so-called responsibility of a person's attitude towards dealing with people. If IT practitioners lack responsibility, their negligence in work, due to the particularity of the industry, is likely to lead to a significant loss of an enterprise. To cultivate student sense of responsibility is to make them realize what they should do well in their duties. If they fail to do well in their duties, they should bear the blame. They should face their mistakes honestly and put this spirit of responsibility into the details of everything. To educate and guide students to shoulder their share of responsibility bravely, go all out and do well, they will never do well in general, which is the spirit of craftsmen needed by enterprises.

Punctuality is a person's moral cultivation and punctuality is a quality. Punctuality is the most primitive form of discipline, and it is a good moral character for skilled personnel. To cultivate punctuality, we must learn to manage time scientifically. Only in this way can we allocate time reasonably, carry out study and work effectively, and do what we want to know immediately. Only by turning ideas into actions can we realize it. At the same time, we should follow the principle of "important things first", classify things, do important and urgent things first, and then deal with other things.

## 3. The Value of Craftsman Spirit Cultivation

(1) Helpful to explore IT skilled talents training in higher vocational colleges with the requirements of the times

With the expansion of higher education, vocational education has achieved a leap in scale, but the rapid development of higher vocational education has not received enough social recognition, and the overall level of higher vocational students is still poor. The development of information technology is "a thousand miles a day", which can be regarded as one of the fastest areas 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 lack of the spirit of assiduous research and excellence, and the lack of career goals and ideals. Therefore, it is more necessary to strengthen the cultivation of "craftsman spirit" in Higher Vocational IT

vocational concept education. Vocational education should be vigorously promoted by the twentieth article of Vocational education. IT majors in higher vocational colleges should seize this favorable opportunity and actively explore the training methods of IT skilled talents that meet the needs of the development of the times.

(2) Helpful to upgrade traditional industries by new information technology

The development of traditional industries to high-end needs not only the spirit of craftsmen, but also information technology as an important means to ensure the strategic landing of "Made in China 2025", promote the transformation and upgrading of manufacturing industry, and complete the structural reform of supply. The upgrading of traditional industries means that the future IT industry in China needs more high-quality talents with excellent technical skills. Without the spirit of craftsmen as the basis, information technology to promote the upgrading of traditional industries will become empty talk. Higher vocational IT education must take the demand of industrial upgrading as a breakthrough point, actively plan the training of IT skilled talents in the new era, serve the industrial upgrading in an all-round way, and contribute to the process of striding forward to a strong manufacturing country.

(3) Helpful to the supply-side reform of IT vocational education

When IT vocational education breaks through the current development dilemma and improves the quality of education, it also needs supply-side reform. In the supply side, it means that higher vocational IT education should improve the quality of education, improve the link of education, and improve the effectiveness of education. The effective integration of craftsmanship spirit into IT skilled personnel training in higher vocational colleges is an effective means of supply-side reform. Through the cultivation of craftsmanship spirit, the quality management of education is strengthened, the employment ability is improved, the overall image of higher vocational education is enhanced, and the development of IT vocational education in higher vocational colleges is effectively promoted from the supply-side.

(4) Promoting the professional quality and ability of students of IT majors in higher vocational colleges

Promote the professional quality and ability of IT majors in Higher Vocational colleges, and promote higher vocational colleges to train more high-quality IT technical talents for the society. At present, IT students in higher vocational colleges are impetuous and eager to succeed. The spirit of craftsmen includes the idea of the unity of knowledge and practice and continuous innovation. To cultivate the spirit of craftsmen is conducive to student down-to-earth design and to the development of their innovative ability on the basis of practice. As a firm ideal and belief, craftsmanship affects people's life, promotes their continuous progress, pioneering and innovative, and improves their professional quality and ability in a subtle way. Therefore, IT education in higher vocational colleges should pay more attention to "craftsman spirit", inherit and explore its inherent spiritual characteristics, and train more high-quality technical talents for the society.

#### **4. Strategies for the Cultivation of Craftsman Spirit**

(1) Integrating craftsman spirit into higher vocational education

As the cradle of cultivating skilled talents, higher vocational and technical colleges need to root the spirit of craftsmen in the thoughts of every student who will eventually enter the post, and make students become "big craftsmen" in the future of the motherland. Higher vocational education needs to start from creating the cultivating environment of "craftsman spirit" of Higher Vocational College students, building the cultivating carrier of "craftsman spirit" of Higher Vocational College students, and improving the cultivating efficiency of "craftsman spirit" of Higher Vocational College students. Through the vocational ethics education of "craftsman spirit", the teaching means of project system, and the present situation. The teaching form of apprenticeship, school-enterprise cooperation, integration of innovation and entrepreneurship platform, building a bridge from classroom to practice for students, seeking an effective carrier and path to cultivate "craftsman spirit" and building a new talent training mode for vocational students to cultivate "craftsman spirit".

(2) The spirit of craftsmen is integrated into every industry

Craftsman Spirit is not only the need of national strategy, but also the need of every social person and every industry. Craftsman spirit originated from traditional handicraft. Nowadays, more and more people associate craftsmanship with manufacturing industry and most of the research on craftsmanship also focuses on manufacturing industry. The spirit of craftsmen has been written into the government work report four times. All walks of life advocate the spirit of craftsmen. The study of craftsmen spirit and a specific industry has gradually become a hot topic.

(3) Integration of big data and craftsman spirit

The innovative ideas represented by the new format of big data should be combined with the craftsmanship spirit bred by traditional industries for a long time, promote the integration of virtual world and real world, reshape the supply chain value chain of industrial chain, promote the vigorous development of new momentum, revitalize traditional momentum, build a "double engine" of China's economy and realize "double medium and high".

## 5. Summary

For a long time, higher vocational colleges in China have paid more attention to the cultivation of students' vocational skills in the process of running schools, but paid less attention to the cultivation of students' professional spirit. The craftsmanship spirit of higher vocational students is a systematic and comprehensive process, which can be accomplished not only by arousing attention, but also by facing some practical difficulties in cultivating the craftsmanship spirit of higher vocational students in the new era. This paper combines the theory and practice of students' craftsmanship spirit cultivation, and systematically combs the theory and practice of students' craftsmanship spirit of IT majors in Vocational colleges, which is helpful to cultivate the craftsmanship spirit of IT students in higher vocational colleges with ideals and beliefs, understanding of technology and innovation, and daring to contribute.

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