

# Cultivation of Craftsmanship Spirit Among Vocational College Students Through Skills Competitions

Shang Wang\*, Zhixin Feng, Xuelei Wang

School of Automotive Engineering, Beijing Polytechnic, Beijing 100176, China

\*Corresponding author: Shang Wang, wangshang@bpi.edu.cn

**Copyright:** © 2023 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

**Abstract:** With the continuous progress of industrial production line technology, more and more frontline workers are needed. The quality of products not only depends on employees' theoretical knowledge and professional skills, but also their conscientious and responsible work attitude in pursuit of excellence. The importance of cultivating craftsmanship has been recognized by vocational institutions and cultivating students' craftsmanship has become one of the goals of vocational education. Skills competition is an important part of the vocational education system, in which it not only acts as a platform for students to showcase their capabilities and compete with others, but also promotes the spirit of hard work and craftsmanship and inspires more workers to hone their skills. We reviewed research of scholars and propose that craftsmanship is an inevitable requirement for high-quality development of vocational education. Finally, the article puts forward five targeted suggestions on how to cultivate students' craftsmanship in the process of skills competition preparation and participation, which can provide reference for vocational institutions in terms of promoting craftsmanship and enrich the cultivation path of craftsmanship.

**Keywords:** Craftsmanship spirit; Vocational college students; Teaching; Skills competition

**Online publication:** March 27, 2023

## 1. Introduction

With the continuous development of society, the social status of skilled personnel is getting higher and higher, and the importance of vocational education is becoming increasingly prominent. The demands toward the quality of products are increasing and the competition among enterprises is intensifying. In order to improve product quality and production efficiency, the technology in production lines are upgraded frequently, which requires front-line employees to be adaptable and have excellent comprehensive qualities [1].

The goal of vocational education is to deliver excellent skilled personnel to enterprises. In recent years, vocational colleges and universities have attached great importance to the cultivation of skilled talents and have been improving the comprehensive quality of students in all aspects in many ways. Craftsmanship is a belief in excellence, attention to detail, and the constant pursuit of excellence. Craftsmanship encompasses an employee's serious demeanor, sense of identity, sense of responsibility, and respect for their profession. It is obvious that craftsmanship is an important indicator of the quality of talent training in vocational colleges and universities and is also needed for students' future career development. The cultivation of craftsmanship is needed for China to build an innovative country, which is an important guarantee for the

transformation from a large country to a strong country <sup>[2]</sup>. As an important part of vocational education, skill competitions have become a platform for teachers and students to showcase their skills and pursue their dreams. Many students have successfully joined famous enterprises and become technical experts of the enterprises after participating in skills competition. To get good results in the skills competition, students must have solid theoretical knowledge and practical skills. In addition, the students must also have the spirit of conscientiousness, hard work, and solidarity. Obviously, these abilities are also intrinsic to craftsmanship <sup>[3,4]</sup>.

At present, in the preparation and participation of skill competitions, there is a common problem in which emphasis is placed on the improvement of theoretical knowledge and skills, while neglecting the cultivation of students' qualities of conscientiousness, solidarity, and courage. Therefore, how can skill competition to better promote the cultivation of talents? Besides, how can students' craftsmanship be cultivated in the process of preparing for the competition? Hence, the research of scholars are reviewed in this paper and it is proposed that craftsmanship is an inevitable requirement for high-quality development of vocational education. The skills competition plays an important role in promoting the cultivation of students' craftsmanship. This paper puts forward six targeted suggestions on how to cultivate students' craftsmanship during the preparation for the competition.

## **2. Research status**

Scholars have elaborated the importance of craftsmanship from different perspectives and studied the cultivation mode of craftsmanship. Zhang <sup>[5]</sup> studied the current situation of cultivating craftsmanship spirit among students in metallurgical vocational colleges. He argued that the pursuit of vocational ideals is important for students' career development. He suggested that craftsmanship spirit can be cultivated from four dimensions: state, school, teachers, and students. Gao <sup>[6]</sup> studied the path of craftsmanship spirit cultivation in modern vocational education. He believes that only by integrating craftsmanship into classroom teaching can students be comprehensively cultivated to meet the competency needs of enterprise positions. Song <sup>[7]</sup> believes that the cultivation of craftsmanship spirit is an important task of moral education in schools. He suggests that the cultivation of craftsmanship needs to be accomplished by the joint efforts of individuals, society, and the state. Sun <sup>[8]</sup> believes that the essence of traditional Chinese culture should be integrated in the cultivation of craftsmanship. In addition to imparting theoretical knowledge and operational skills to students, schools should also pay attention to the cultivation of humanistic feelings and professionalism. Bu <sup>[9]</sup> studied the strategies for cultivating craftsmanship among vocational education teachers. He believed that teachers in vocational colleges should be a good example and guide students to truly understand craftsmanship. Li <sup>[10]</sup> took Liaoning Light Industry Vocational College as an example and studied the model of cultivating craftsmanship based on the culture of model workers. He argued that it is necessary to integrate the culture of model workers into the curriculum to promote the overall growth of students. Scholar Huang <sup>[11]</sup> analyzed the cultivation of craftsmanship in the new era. He believes that the craftsmanship of excellence and attention to detail is an inevitable requirement for promoting the transformation and high-quality development of China's manufacturing industry. Scholar Yang <sup>[12]</sup> studied the current situation of cultivating craftsmanship in vocational colleges. He argues that the cultivation of craftsmanship cannot be forcibly added to the lessons, but it should be integrated naturally. Tan <sup>[13]</sup> studied the role of physical education in fostering craftsmanship. He suggested that the physical education classroom should be an important "field" for the cultivation of craftsmanship. Li <sup>[14]</sup> studied the cultivation of craftsmanship from three aspects: value, problems, and countermeasures. He believes that vocational colleges should pay attention to enhancing students' appreciation and recognition of craftsmanship.

### **3. Craftsmanship is an inevitable requirement for high-quality development of vocational education**

Craftsmanship is a spirit of rigor and conscientiousness, excellence, and the pursuit of perfection. Craftsmanship is not only about paying attention to detail, being meticulous, and the pursuit of perfection, but also includes keeping up with the times and innovation. Throughout the process of industrialization, almost every innovation and creation that caused industrial changes were inseparable from craftsmanship. Craftsmanship spirit has given birth to explorers and inventors from all walks of life, promoting the integration of science and technology and industrial manufacturing. In recent years, under the impact of the market economy, some vocational colleges and universities want to make quick profit and emphasize too much on the employment rate and promotion rate of students, while neglecting the cultivation of craftsmanship. Students that are incapable, have poor attitude, and are not willing to sharpen their skills will not be able to meet the requirements of employers. As a results, many graduates would end up resigning, which is both a setback for their careers and a loss of human resources for enterprises. At present, China's economy has shifted from the high-speed growth stage to the high-quality development stage. To achieve high-quality development, we must vigorously inherit and cultivate the spirit of craftsmanship. People are demanding higher quality products and services, while corporates are also increasing their expectations towards employees. In such a context, it has become a necessary requirement for vocational education to inherit and cultivate the spirit of craftsmanship. The issue of cultivating and enhancing students' craftsmanship has become crucial for the development of vocational education. In short, the cultivation of craftsmanship of employees is needed for the development of enterprises; it is also helpful for the self-development of students; and it is an inevitable requirement for the high-quality development of vocational education.

### **4. The role of skill competition on the cultivation of craftsman spirit**

#### **4.1. Cultivation of innovative ability**

When setting courses related to skills competitions, teachers should include innovation- and entrepreneurship-related content in the lessons. Teachers can share their own experiences, play videos, give lectures, or use other methods to cultivate students' innovative ability. In addition, the school can invite front-line senior engineers and technical experts of enterprises to the school to provide more targeted guidance for students participating in competitions. In short, the process of participating in and preparing for a skills competition is an important way to cultivate students' craftsmanship spirit. Teachers should not only strengthen students' vocational skills, but also emphasize the cultivation of creative thinking, so as to develop their innovative ability.

#### **4.2. Training of problem analysis and solving ability**

During the preparation and competition, students will inevitably encounter various problems. The process of analyzing and solving these problems is very helpful for students to improve their comprehensive ability. After competing in the skills competition, students will have a clearer understanding of their own skills, strengths, and weaknesses. Participating in the skills competition can enhance students' learning consciousness and initiative, and further stimulate their interest in learning. During the competition, students can learn about the achievements of front-line employees. Besides, students can also learn how to work together while solving problems in competitions. The teachers in charge of the skills competitions are composed of first-line skilled craftsmen, senior engineers, and professional teachers. By guiding students in solving problems and mastering new technologies and equipment, they can help develop the students' problem-solving skills. Students will also be taught to fully comply with the operation specifications and complete their tasks efficiently. Besides, through conversations with the craftsmen, students can better understand craftsman spirit and respect their profession even more.

### **4.3. Cultivation of concentration**

One of the important qualities of a craftsman is to pay great attention to details. To do this, students should devote themselves to their majors, so that they can develop their skills. When participating in the skills competition, students should focus on their work, persevere and pay attention to the details in order to continuously improve the competition works. At the same time, the students should also comply with the competition standards and not put out half-hearted work. The teachers should always remind students to focus on details in the entries, and urge to be hard on themselves so that the integration of craftsmanship spirit and knowledge skills can be achieved. Through participating in competitions, the students will learn to love their majors and learn about dedication and craftsman spirit.

### **4.4. Cultivation of perseverance**

In the process of participating in the skills competition, students will also meet many skilled craftsmen. These highly skilled craftsmen serve as an example of ingenuity, perseverance, and perseverance. In teaching, the school can invite some model workers or senior artisans to campus to demonstrate the power of craftsman spirit to students through presentations, face-to-face communication, and other ways. In this way, students will be encouraged and motivated to study hard and persevere through challenges in life. Students can experience the spirit of craftsman deeply by participating and solving problems in skills competitions. Therefore, schools should ensure the optimization of practical training courses, build a simulated working environment, and provide real competition experience for students. Secondly, teachers can also include practical training projects into their workshops. In the practical training, teachers and students can play different roles to simulate the process of a competition, and provide guidance and feedback. This can not only ensure the quality and effect of practical training, but also greatly help students in building perseverance.

### **4.5. Cultivation of passion for work and dedication**

In view of the teaching of professional courses in higher vocational colleges, teachers should consider the characteristics of vocational education and integrate craftsman spirit into the teaching objectives, educational process, and evaluation methods. In the teaching process, teachers should make students watch technical skills competition programs to improve their dedication and professional ethics. Vocational colleges should focus on cultivating “great artisans,” allow students to take part in skill competitions more often, shape their craftsman spirit in the process of participation, and cultivate highly skilled and high-quality talents. Teachers can invite experts to teach the students so that they will develop good professional qualities and persistence. In short, by participating in the skills competition, industry-education integration can be achieved, and promote the collaboration between schools and enterprises. The students will develop persistence and a good attitude towards their work with continuous learning and practice.

## **5. Conclusions**

Craftsmanship requires students to not only have good skills, but also to have a rigorous, meticulous, dedicated, and responsible work attitude, as well as a sense of identity and honor for their profession. Craftsmanship is manifested through a person’s value orientation and behavior towards their work; that is, a practitioner’s respect for their profession, excellence in the quality of products and services, and the process of continuous innovation. Vocational skills competitions are an important platform for students to learn professional knowledge and skills; they are also a platform to test the quality of the students. Skills competitions not only help in the development of vocational education, but also promote the spirit of labor and craftsmanship, and inspire more workers to sharpen their skills. A good skills competition is not only help in developing the students’ theoretical knowledge and skills, but also help cultivate the spirit of

craftsmanship.

## Funding

- (1) The Project of China Vocational Education Association (Project number: ZJS2022YB024).
- (2) The Project of Innovation and Development Center of Ideological and Political Work (Beijing Polytechnic), Ministry of Education (Project number: 2022X305-SXZC).

## Disclosure statement

The authors declare no conflict of interest.

## Author contributions

S.W. and Z.F. conceived the idea of the study and wrote the first draft of the paper. X.W. revised the format of the article.

## References

- [1] Wang S, 2019, Significance, Characteristics, and Implementation Measures of the Implementation Plan of National Vocational Education Reform. *Journal of Shijiazhuang Vocational and Technical College*, 31(3): 4–10. <http://doi.org/10.3969/j.issn.1009-4873.2019.03.002>
- [2] Li YF, 2017, The Absence, Regression and Reconstruction of the “Craftsman Spirit” in Vocational Education. *Higher Vocational Education Exploration*, 16(3): 34–38. <https://doi.org/10.3969/j.issn.2095-364X.2017.03.010>
- [3] Wan L, 2022, Promote the Development of Higher Vocational Education with the Help of Vocational Skills Competition. *The Road to Success*, 2022(27): 25–28. <https://doi.org/10.3969/j.issn.1008-3561.2022.27.009>
- [4] He BY, Hua XF, 2021, Research on the Strategy of Improving the Efficiency of Skill Competition in Vocational Colleges. *Communication of Vocational Education*, 2021(9): 60–64. <https://doi.org/10.3969/j.issn.1674-7747.2021.09.012>
- [5] Zhang Y, 2022, The Study on Cultivating the Craftsman Spirit of Students in Metallurgical Higher Vocational Colleges. *Gansu Metallurgy*, 44(2): 126–129. <https://doi.org/10.3969/j.issn.16724461.2022.02.034>
- [6] Gao CJ, 2022, Research on the Path of Cultivating Craftsman Spirit in Modern Vocational Education. *Continue Education Research*, 2022(12): 51–55. <https://doi.org/10.3969/j.issn.1009-4156.2022.12.010>
- [7] Song CL, 2022, Research on the Cultivation Path of Craftsman Spirit from the Perspective of Moral Education. *The Guide of Science & Education*, 2022(29): 78–80. <https://doi.org/10.16400/j.cnki.kjdk.2022.29.026>
- [8] Sun JF, 2022, On the Cultivation of Craftsmanship in Vocational Colleges from the Perspective of Chinese Excellent Traditional Culture. *Journal of Chuzhou Vocational and Technical College*, 21(2): 11–14. <https://doi.org/10.3969/j.issn.1671-5993.2022.02.004>
- [9] Bu TM, 2022, Exploration of the Cultivation Strategy of Craftsman Spirit of Higher Vocational Teachers. *The Road to Success*, 2022(2): 7–9. <https://doi.org/10.3969/j.issn.1008-3561.2022.02.003>
- [10] Li ZF, Shang K, Qin YN, 2022, Exploration of Collaborative Cultivation of Student’s Model Workers Culture and Craftsmanship Spirit in Vocational Colleges. *Journal of Liaoning Higher Vocational*, 24(3):

109-112. <https://doi.org/10.3969/j.issn.1009-7600.2022.03.027>

- [11] Huang XQ, 2022, On the Craftsman Spirit and Cultivation Practice in the New Era. *Journal of Hubei Open Vocational College*, 35(15): 114-116. <https://doi.org/10.3969/j.issn.2096-711X.2022.15.041>.
- [12] Yang WH, Tan M, 2022, A Study on Current Situation of Craftsmanship Cultivation in Vocational Universities. *Journal of Jilin Teachers Institute of Engineering and Technology*, 38(8): 13–16. <https://doi.org/10.3969/j.issn.1009-9042.2022.08.005>
- [13] Tan XP, 2021, Physical Education in Higher Vocational Colleges is an Effective Way to Cultivate the Spirit of Craftsman. *Contemporary Sports Technology*, 11(9): 121–123. <https://doi.org/10.16655/j.cnki.2095-2813.2007-1579-5775>
- [14] Li XY, 2021, The Value, Issues and Countermeasures of Cultivating Craftsmanship Spirit in Higher Vocational Colleges. *Higher Vocational Education Exploration*, 20(2): 29–34. <https://doi.org/10.3969/j.issn.2095-364X.2021.02.006>

**Publisher's note**

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.