

# Research on the Cultivation Path of Craftsmanship Spirit in Vocational Colleges: from the Perspective of Skills Competition

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**Abstract:** The spirit of craftsmanship is gaining increasing attention from both society and the education community. Along with professional knowledge, continuous research, and innovation have become decisive factors in determining the quality of products. In this context, vocational colleges strive to cultivate high-quality skilled talents, making the cultivation of craftsmanship spirit a crucial component of vocational education. This study explores the cultivation path of craftsmanship spirit through the lens of skills competitions, with a special emphasis on developing students' perseverance. The research conclusions of this article hold significant reference value for the implementation of vocational education policies.

**Keywords:** Skills competition; Cultivation path; Craftsmanship spirit; Vocational education

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## 1. Introduction

In recent years, skills competitions have become integral to vocational education. They offer students an opportunity to showcase their abilities and apply what they have learned in a practical setting<sup>[1]</sup>. Moreover, participating in these competitions allows students to gain valuable experience in teamwork, time management, and communication<sup>[2]</sup>. Additionally, skills competitions serve as a platform for students to network with professionals and potential employers, increasing their chances of finding employment after graduation<sup>[3]</sup>. Therefore, it is imperative for schools to pay attention to the cultivation of students' craftsmanship spirit if they wish to succeed in these competitions. The cultivation of craftsmanship spirit is equally important as professional courses for vocational college students. While professional courses equip students with technical skills and knowledge, the cultivation of craftsmanship spirit teaches them the value of attention to detail, dedication, and commitment to quality<sup>[4]</sup>. These qualities are essential for success in any vocational field, as they enable students to produce high-quality work that meets the expectations of their customers and employers. Additionally, cultivating a craftsmanship spirit can help students develop a sense of pride in their work and a passion for their chosen profession, motivating them to continue learning and improving throughout their careers.

The cultivation of craftsmanship spirit is beneficial for vocational college students preparing for skills competitions. Such competitions demand not only technical skills but also attention to detail, creativity, and dedication to produce high-quality work. By instilling these qualities in students, the cultivation of craftsmanship spirit can help them meet the demands of the skills competition. Students with a strong sense of craftsmanship are more likely to produce outstanding work in competitions, increasing their chances of

success. Additionally, the cultivation of craftsmanship spirit can help students stay focused and motivated throughout the preparation process, leading to better performance and outcomes <sup>[5]</sup>.

Scholars have long recognized the significance of craftsmanship spirit in skills competitions and conducted extensive research on the topic. However, there is a lack of research on the cultivation path. This study fills the gap by analyzing two skills competition cases and drawing valuable conclusions. These findings hold significant reference value for innovating the cultivation mode of craftsmanship spirit in vocational colleges.

## **2. Research status**

Numerous scholars have dedicated their efforts to studying skills competitions. For instance, Qi investigated the positive impact of vocational skills competitions on enhancing students' practical abilities, emphasizing the importance of adjusting teaching content and reforming teaching methods <sup>[6]</sup>. Wan analyzed the development of higher vocational education propelled by vocational skills competitions and suggested that building a reasonable teaching system and changing teaching evaluation methods are effective ways to promote its development <sup>[7]</sup>. Liu analyzed the benefits of participating in agricultural product quality and safety testing competitions in promoting the teaching level of agricultural product quality and safety testing <sup>[8]</sup>. In another study, Wu analyzed the role of skills competitions in advancing the metalworking internship curriculum in a school, which enhances students' understanding of the course content and exercises their practical skills <sup>[9]</sup>. Finally, Wan discussed the key technologies of the skills competition of "modern electrical control system installation and commissioning" and shared strategies for achieving favorable results <sup>[10]</sup>. Scholars have researched the cultivation of craftsmanship spirit in vocational education. Zhang focused on the current situation of cultivating craftsmanship spirit among students in metallurgical vocational colleges, highlighting the importance of pursuing vocational ideals for career development <sup>[11]</sup>. He suggested a four-dimensional approach to cultivating craftsmanship spirit, involving the state, school, teachers, and students. Similarly, Gao studied the cultivation path of craftsmanship spirit in modern vocational education and proposed that integrating craftsmanship into classroom teaching is necessary for students to develop the competencies required for enterprise positions <sup>[12]</sup>. In contrast, Song viewed the cultivation of craftsmanship spirit as a crucial task of moral education in schools, requiring joint efforts from individuals, society, and the state <sup>[13]</sup>.

Scholars have examined skills competitions from various angles and have come to a consensus on their vital contribution to the growth of vocational education. However, scholars have relatively little research on the cultivation path of students' perseverance. This article conducts relevant research from the perspective of skills competitions and proposes several targeted suggestions.

## **3. Challenges faced**

In addition to professional extracurricular activities, the improvement of students' comprehensive quality is the primary task of vocational education. The comprehensive quality includes a lot of content, and this article only focuses on the issue of willpower, which plays an important role in the preparation and participation in skills competitions.

Students' lack of willpower can significantly affect their preparation for the skills competition. Skills competition requires students to spend long hours practicing, refining their techniques, and overcoming challenges. Without willpower, students may become easily frustrated or discouraged, leading to a lack of progress and poor performance in competitions. For example, students are preparing for a cooking competition. The competition requires the students to prepare a complicated dish with a specific set of ingredients and a time limit. Without willpower, the students may become frustrated with the difficulty of the dish and give up before they have fully mastered the recipe. They may also struggle to stay motivated

to practice and refine their technique, leading to a lack of progress and poor performance in the competition. Similarly, in a technical skills competition, a lack of willpower can lead to a lack of progress in mastering the necessary skills. For instance, students preparing for a welding competition may struggle to master a particular welding technique. Without perseverance, they may become discouraged and give up on practicing the technique, leading to a lack of progress and poor performance in the competition.

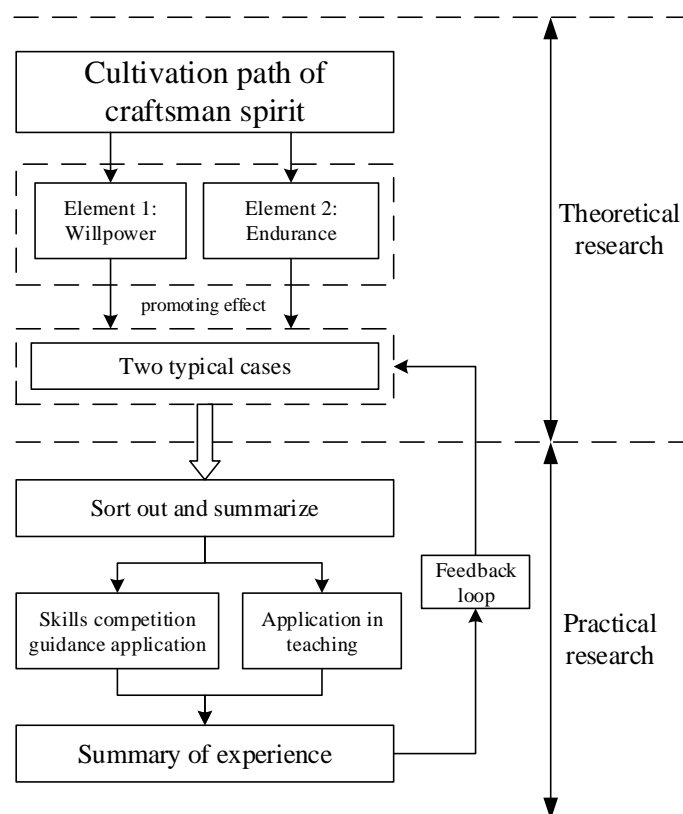
Overall, willpower is a crucial quality for students preparing for the skills competition. Without willpower, students may struggle to overcome the challenges of competition and fail to reach their full potential. Cultivating willpower and endurance is an important topic and also an important aspect of cultivating the spirit of craftsmanship.

#### 4. Cultivation path

We focused on cultivating willpower and endurance and studied the path of cultivating craftsmanship spirit.

##### 4.1. Logic diagram

In **Figure 1**, we illustrate our research process, which began with theoretical exploration. We focused on two specific areas of interest: willpower and endurance. To begin with, we analyzed two typical cases related to these topics, specifically looking at the preparation process and work in skills competitions. These cases demonstrated the significance of willpower and the importance of endurance training for succeeding in skills competitions. Afterwards, both the teacher and participating students organized and summarized these cases. Subsequently, we applied these findings in both the classroom and skills competitions. We then evaluated the application’s effectiveness through a survey questionnaire, and from our analysis, we derived valuable insights. We used this feedback to optimize the original two typical cases, emphasizing their applicability in teaching. This part of our research focused on practical implementation.



**Figure 1.** Logic diagram of the cultivation path of craftsmanship spirit

Our cultivation path for craftsmanship spirit has two distinctive features. Firstly, it is a feedback loop, not a one-way street. The effectiveness of teaching is the key to the cultivation of craftsmanship spirit, and whether students accept this teaching mode plays a crucial role. Therefore, we continuously analyze and optimize cases through student survey questionnaires to improve teaching quality. Secondly, our cultivation path involves students' case studies, which have strong persuasive and infectious power. As students may have encountered similar experiences or expect to face them in the future, they are highly receptive to our classroom teaching content. It is worth noting that many students in our craftsmanship spirit cultivation program are also interested in skills competitions, and they proactively registered for competitions and sought advice from teachers on the competition rules. This is a significant affirmation of our research work.

#### 4.2. Data analysis

In order to analyze the effectiveness of the cultivation path of craftsmanship spirit, we conducted a survey and analysis of teaching experiments. The survey is a single-choice question, including the following five questions:

Q1: Do you think the cultivation of craftsmanship spirit is very important?

Q2: Do you think the cultivation of craftsmanship spirit should pay attention to methods?

Q3: Is it more conducive to your understanding to explain the craftsmanship spirit through skills competition cases?

Q4: Is willpower very important in both learning and work?

Q5: Is the cultivation of endurance important in both learning and work?

**Table 1.** Data analysis results

	Q1	Q2	Q3	Q4	Q5
Class 1	33	31	33	32	25
Class 2	31	24	32	33	25
Class 3	32	33	34	34	26

An analysis was conducted on the students from three classes. These three classes are labeled as Class 1 (33 students), Class 2 (33 students), and Class 3 (35 students). Statistical analysis was conducted on the agreed data, and the results are shown in **Table 1**. From the feedback from classmates, it can be seen that using real cases can be a very effective way to help students in vocational colleges understand and recognize the spirit of craftsmanship. Real cases can provide concrete examples of how the principles of craftsmanship are put into practice in various industries and professions. By studying real cases, students can see how skilled practitioners apply their knowledge, expertise, and attention to detail to produce high-quality products or services. They can also see how practitioners overcome challenges and solve problems in their work, and how they continuously strive to improve their skills and techniques. The cultivation of willpower and endurance should be highly valued by vocational education practitioners. Willpower and endurance are essential skills for success in any profession or industry, and they are particularly important in vocational education, where students are preparing for careers that require a high degree of skill and expertise. Willpower is the ability to stay focused on a goal or task, even in the face of distractions, difficulties, or setbacks. Students who develop strong willpower are better able to persevere through challenges and setbacks, and they are more likely to achieve their goals. Endurance, on the other hand, is the ability to sustain effort over time, even when faced with fatigue or discomfort. Students who develop endurance are better able to work for extended period of time, and they are more likely to produce high-quality work.

## **5. Specific suggestions**

### **5.1. Cultivate craftsmanship spirit in teaching**

Cultivating the craftsmanship spirit should be an important aspect of teaching in vocational colleges. The craftsmanship spirit emphasizes the importance of quality, innovation, and dedication in one's work, which are essential qualities for success in vocational fields.

By fostering the craftsmanship spirit in teaching, vocational colleges can help students to develop a deep appreciation for their chosen field of study, a commitment to excellence, and a willingness to continually improve and innovate. This can help students to become more engaged and motivated in their studies, leading to better academic performance and a greater likelihood of success in their careers. In addition, cultivating the craftsmanship spirit can help to promote a culture of respect for vocational trades and skilled labor, which are often undervalued in society. By emphasizing the importance of quality and dedication in one's work, vocational colleges can help to instill a greater sense of pride and respect in students for their chosen field of study. Thus, the cultivation of the craftsmanship spirit in teaching can help to prepare students for successful careers in vocational fields, while also promoting a greater appreciation for skilled labor.

### **5.2. Cultivate craftsmanship spirit in various ways**

Adopting various modes is important in cultivating the spirit of craftsmanship in vocational colleges. Students have different learning styles and preferences, and a one-size-fits-all approach may not be effective in developing the craftsmanship spirit in all students.

Vocational colleges can adopt various modes to cultivate the craftsmanship spirit, such as hands-on training, apprenticeships, mentorship programs, project-based learning, and competitions. These modes can help students to gain practical experience, develop problem-solving skills, and build relationships with experienced professionals in their chosen field of study. In addition, vocational colleges can incorporate soft skills training, such as communication, teamwork, and leadership, into their curriculum to complement technical training and help students develop a well-rounded skill set. Furthermore, vocational colleges can leverage technology and online resources to provide students with access to a wide range of learning materials and opportunities, including virtual simulations, webinars, and online communities.

## **6. Results**

It is very important to cultivate the spirit of craftsmanship in vocational colleges. The craftsmanship spirit emphasizes the importance of quality, innovation, and dedication in one's work, which are essential qualities for success in vocational fields. By fostering the craftsmanship spirit in teaching, vocational colleges can help students to develop a deep appreciation for their chosen field of study, a commitment to excellence, and a willingness to continually improve and innovate. This can lead to better academic performance and a greater likelihood of success in their careers. The skills competition is an important field for cultivating the spirit of craftsmanship. These competitions provide opportunities for students to showcase their skills, creativity, and dedication to their chosen field of study.

## **7. Conclusion**

It is important to explore multiple models to cultivate the craftsmanship spirit of vocational college students. By exploring multiple models such as hands-on training, apprenticeships, mentorship programs, project-based learning, and competitions, vocational colleges can help students to gain practical experience, develop problem-solving skills, and build relationships with experienced professionals in their chosen field of study. This can lead to better academic performance, career success, and a greater contribution to society.

The skills competition is an important path for cultivating the craftsmanship spirit. Skills competition

can motivate students to strive for excellence, develop innovative solutions to problems, and continuously improve their skills. As an important way to cultivate craftsmanship spirit, skills competitions should be paid attention to by teachers and students in vocational colleges who actively participate in them.

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The authors declare no conflict of interest.

### **Author contributions**

S.W. and M.C. conceived the idea of the study and wrote the first draft of the paper. Y.W. revised the format of the article.

### **References**

- [1] Wang S, Wang X, Li M, 2023, Experimental Research on Introducing Skills Competition-based Content into Classroom Teaching. *Scientific and Social Research*, 5(2): 1–8. <https://doi.org/10.26689/ssr.v5i2.4707>
- [2] Wang S, Peng F, Feng Z, 2023, The Role of Skills Competitions in Improving the Practical Ability of Vocational College Students. *Journal of Contemporary Educational Research*, 7(2): 23–28. <https://doi.org/10.26689/jcer.v7i2.4708>
- [3] Wang S, Peng F, Li M, 2022, Enhancing the Problem-Solving Skills of Vocational Students through Skills Competition. *Journal of Contemporary Educational Research*, 6(12): 9–15. <https://doi.org/10.26689/jcer.v6i12.4546>
- [4] Wang S, Zhen X, Wang X, 2023, Research on the Cultivation Path of Craftsmanship Spirit Among Vocational College Students. *Journal of Contemporary Educational Research*, 7(4): 1–6. <https://doi.org/10.26689/jcer.v7i4.4783>
- [5] Wang S, Feng Z, Wang X, 2023, Cultivation of Craftsmanship Spirit among Vocational College Students through Skills Competitions. *Scientific and Social Research*, 5(3): 1–6. <https://doi.org/10.26689/ssr.v5i3.4741>
- [6] Qi N, 2014, On the Training of the Computer Science Students' Practical Ability in the Higher Vocational Colleges Based on the Professional Skills Competition. *Journal of Shaoguan University*, 2014(10): 95–98.
- [7] 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.
- [8] Liu ZJ, Wan J, 2021, Review and Enlightenment of Lead Detection in Tea in the Guangdong Vocational College Skills Competition for Quality and Safety Test of Agricultural Products. *Guangdong Chemical Industry*, 48(14): 342–344.
- [9] Wu L, Lin KF, Zhong JL, 2020, Index System Construction and Result Analysis of Effectiveness Evaluation of Teaching Methods of Metalworking Practical Training. *China Educational Technology*

& Equipment, 2020(24): 149–152.

- [10] Wan XC, Qi XB, 2020, Discussion on the Key Technologies of “Installation and Debugging of Modern Electrical Control System” in Skill Competition. *Journal of Southern Vocational Education*, 10(2): 87–94.
- [11] 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/10.16042/j.cnki.cn62-1053/tf.2022.02.034>
- [12] Gao CJ, 2022, Research on the Path of Cultivating Craftsman Spirit in Modern Vocational Education. *Continue Education Research*, 2022(12): 51–55.
- [13] 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>

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