



Research on the Pathways to the Cultivation of "Craftsman Spirit" in Vocational Colleges

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Abstract. With increasing demands for technical and skilled talents in society, vocational colleges, as important institutions for cultivating such talents, have garnered widespread attention to their educational quality and level. Among them, the spirit of craftsmanship is an important component of vocational college students' comprehensive quality and is also a hot research topic in current vocational education. This article starts with the current situation of cultivating the spirit of craftsmanship in vocational colleges, analyzes its connotation and characteristics, and explores implementation paths for cultivating it. The goal is to provide useful references for improving the comprehensive quality of vocational college students.

Keywords: vocational colleges; The spirit of craftsmanship; Cultivation of literacy; Implementation path

1 Introduction

Literacy plays an important role in student development, and through strengthening cognition through literacy education, the educated group can obtain comprehensive improvements in abilities, attitudes, and other aspects, achieving the comprehensive goal of serving student development^[1]. The spirit of craftsmanship emphasizes love and reverence for work, pays attention to meeting user needs, and integrates it into improving literacy to promote the formation of good professional concepts and moral qualities among students. Cultivating the spirit of craftsmanship meets the demand of society for high-quality technical and skilled talents and is more conducive to improving the timeliness of ideological and political work.

2 The Spirit of Craftsmanship is an Essential Quality for Highly Skilled Talents

The craftsmanship spirit significantly promotes high-quality economic and social development, serving as a crucial support for enterprise competitiveness. It underscores the relentless pursuit of excellence and continuous improvement, coupled with the

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mastery of skills, dedication, focus, and innovation in one's work. Its core essence resides in the ultimate pursuit of quality, precision, and detail-oriented work, along with a passionate and persevering dedication to the cause, coupled with the continuous quest for innovation and improvement.

2.1 The Rigid Demand of Society for Technical and Skilled Talents

The consistent emergence of technologies like 5G has triggered an escalating demand for technical and skilled talents within society. Consequently, the cultivation and development of high-quality talents has become a topic of intense discussion. Notably, the digital transformation of traditional industries has resulted in a significant scarcity of technical and skilled talents. In the city where the author resides, the manufacturing industry has undergone a transition from traditional processing to intelligent manufacturing. Consequently, there has been a notable shift in the orientation of talent demand. Industrial iteration necessitates a greater pool of technical and skilled personnel to operate and maintain modern equipment. Secondly, the emergence of new industries necessitates a substantial pool of technical and skilled talents. For instance, advancements in the Internet, artificial intelligence, and big data demand numerous software engineers and data analysts. Furthermore, the trend towards global economic integration has expedited the need for technical and skilled personnel. The intensifying international competition, as countries seek to enhance their technological competitiveness and innovation capabilities, has given rise to a surge in the inflexible demand for technical and skilled talents in society.

2.2 The Supporting Role of Vocational Colleges in Cultivating Technical and Skilled Talents

Vocational colleges serve as the primary avenue for cultivating vocational skills talents in our country. Firstly, vocational colleges nurture students into high-quality talents possessing robust skills, remarkable qualities, a strong focus on practical application, and a constant drive for innovation, all achieved through scientific and methodical vocational training. Secondly, vocational colleges typically boast a diverse faculty composed of professionals from enterprises, industries, and academia, who offer students guidance in practical operations, theoretical learning, and career planning^[2]. Concurrently, vocational colleges prioritize collaboration with enterprises and industries, fostering a deep integration system between schools and enterprises in industry-education alignment. This ensures that students are provided with internship, training, and employment opportunities, facilitating their smooth transition into the workplace and subsequent career development. Thirdly, enterprises accord utmost importance to employee training and development. In close collaboration with enterprises, vocational colleges offer targeted training courses and programs tailored to the specific needs of enterprise development, thereby fulfilling the demand for skilled talents and realizing diverse benefits.

2.3 The Important Position of "Craftsman Spirit" in Vocational College Education

The spirit of craftsmanship holds a pivotal role in guiding the education of vocational colleges. Firstly, the essence of craftsmanship constitutes a crucial aspect of vocational education's core values, molding students' ethical and qualitative standards in their professions. This emphasizes the quest for excellence in skills, dedication, and workplace innovation, all essential for students' career success^[3]. Secondly, the spirit of craftsmanship serves as a guiding force for reforming and innovating vocational education. In educational practice, integrating the spirit of craftsmanship into students' learning and life fosters the union of knowledge and practice, enhances their cognitive faculties, and ultimately benefits their holistic development. Thirdly, the spirit of craftsmanship serves as a vital means to fulfill the objectives of vocational education and training. The economic and social progress of our nation hinges on a sizeable pool of technically proficient individuals embodying the craftsmanship spirit. Only by embodying this spirit can we consistently adapt to the evolving landscape of emerging technologies and innovations. Thereby, contributing significantly to the growth of our national economy and the ongoing transformation and upgrading of the manufacturing sector. The associated logical architecture is shown in Figure 1

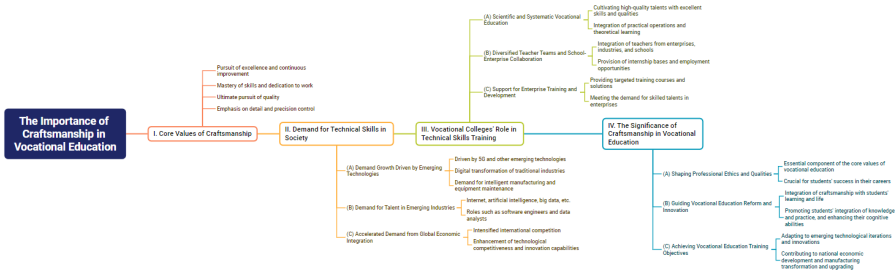


Fig. 1. Core components and key impacts of craftsmanship spirit

3 The Current Situation and Problems of Cultivating the Spirit of Craftsmanship in Vocational Colleges

The absence of the "craftsmanship spirit" in society is a pivotal issue deserving utmost attention. In rapidly evolving societies, the pursuit of efficiency often overshadows the importance of honing skills and fostering spiritual growth. Furthermore, the overemphasis on theoretical teaching in school education, coupled with the neglect of skill inheritance and inadequate support mechanisms, necessitates vocational colleges to prioritize the cultivation of the "craftsmanship spirit".

3.1 The Development of "Craftsman Spirit" in the Education Process of Vocational Colleges

The increasing social demand has spurred significant advancements in the theoretical exploration of the "craftsman spirit," indirectly prompting vocational colleges to integrate diverse endeavors with this ethos. Towards the conclusion of 2022, eight departments, including the Ministry of Education and the National Bureau of Rural Revitalization, jointly promulgated the "Guiding Opinions on Fostering Rural Craftsmanship Development". Shortly after, the All China Federation of Trade Unions and the Ministry of Education jointly released the "Notice Concerning the Vigorous Promotion of the Model Worker and Craftsman Ethos and the Enhancement of the 'Model Workers and Craftsmen Entering Campus' Initiative". All these measures underscore the imperative to further enhance the "professional" foundation of vocational colleges and steer students towards personal growth and talent development. At the school-level implementation, the ethos of craftsmanship has gradually been incorporated into curriculum design. Numerous vocational colleges have embarked on integrating the craftsmanship ethos into their professional talent development programs, leading to the optimization of their curriculum systems. Concurrently, through the deepening of school-enterprise collaborations, the ethos of craftsmanship will be reinforced through professional internship and training opportunities. Leveraging partnerships with enterprises, campus cultural endeavors, student club activities, and various other avenues, practical undertakings will be conducted to foster the ethos of craftsmanship.

3.2 The Core Issues of Cultivating the Spirit of Craftsmanship in Vocational Colleges

Despite comprising half of China's higher education system, vocational education faces a persistent issue: the absence of social recognition, which hinders the cultivation of a craftsmanship spirit^[4]. Firstly, the low recognition of vocational education in society undermines the colleges' commitment to fostering a craftsmanship spirit. Vocational colleges lack sufficient capabilities to identify effective methods and pathways. Secondly, the cultivation of a craftsmanship spirit lacks practical backing. The value of "craftsmanship spirit" lies primarily in practical operations and innovative creation; however, vocational colleges tend to prioritize theoretical cultivation, neglecting hands-on experience and practical application. Thirdly, there is a dearth of effective cultivation pathways and evaluation criteria. Presently, achieving a unified standard for assessing the "craftsmanship spirit" remains elusive, hindering teachers and students from clearly defining their efforts and objectives. The absence of effective evaluation mechanisms hampers the scientific assessment of the effectiveness of fostering the craftsmanship spirit. Fourthly, a lack of close collaboration with enterprises hinders effective talent nurturing. Insufficient understanding of collaborative education prevents students from grasping the actual needs of enterprises and industry development trends. Lastly, the absence of a teacher team embodying the

"craftsman spirit" undermines students' ability to perceive its authentic atmosphere and influence.

3.3 The Compatibility Between the Cultivation of "Craftsmanship Spirit" and Ideological and Political Education

Universities face compatibility challenges in integrating the cultivation of the craftsmanship spirit with ideological and political work. On one hand, the craftsmanship spirit and ideological and political education mutually reinforce each other. However, there exist certain incompatibilities between these two aspects. Firstly, the content and focus of fostering the craftsmanship spirit differ from ideological and political education. The craftsmanship spirit highlights technical excellence, dedication, focus, and innovation, emphasizing hands-on practice and skill enhancement. In contrast, ideological and political education focuses on guiding students' thoughts and moral education, differing from the concrete shaping of the craftsmanship spirit. Secondly, differences exist in the educational methods and objectives of fostering the craftsmanship spirit and ideological and political education. The craftsmanship spirit is primarily cultivated through practical operations and technical skill enhancement, whereas ideological and political education relies mainly on classroom, theoretical, and cultural teaching methods. Consequently, the disparities in educational methods and goals present a dilemma in the coordination and integration of these two aspects in educational practice. The associated logical architecture is shown in Figure 2

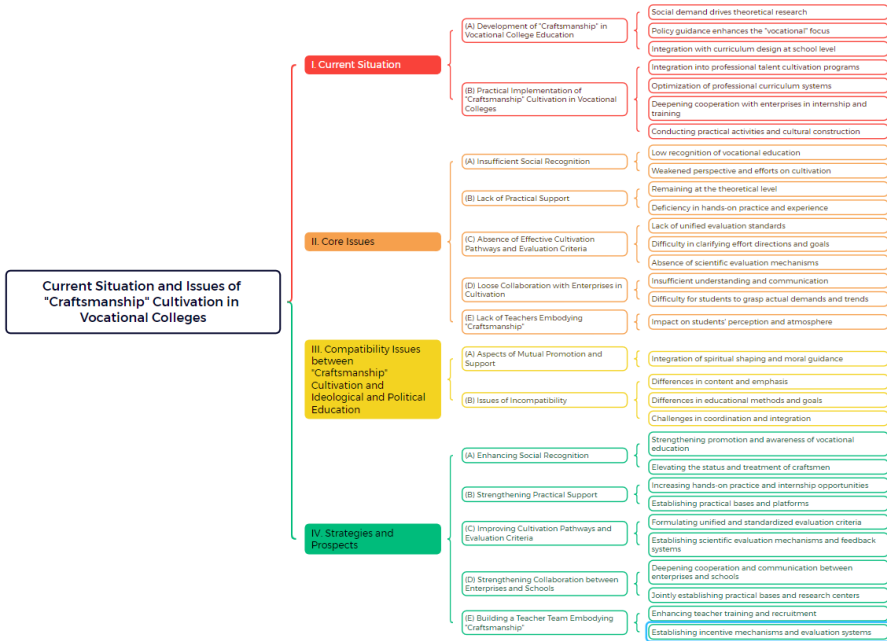


Fig. 2. Current situation and problems in cultivating the spirit of craftsmanship in vocational colleges

4 Exploring the Implementation Path of Cultivating the Spirit of Craftsman

Nurturing the spirit of craftsmanship is a complex and meticulous undertaking that necessitates diverse endeavors and collaborative efforts^[5].

4.1 Establishing the Awareness of "Craftsmanship" and Enhancing Students' Professional Literacy Concepts

Firstly, integrate the element of "craftsmanship spirit" into the traditional educational framework of vocational colleges. Disseminate the core values of "craftsmanship spirit" through courses, seminars, and diverse formats, enabling students to deeply comprehend its meaning and worth, as well as its significance for personal career growth and enterprise development. Secondly, prioritize the promotion of practical education and training programs. Place emphasis on practical education, emphasizing the seamless integration of behavior and cognition, fostering a conducive educational environment, and enhancing the integration of practical training with cognitive understanding, thereby fostering a stronger awareness of "craftsmanship". Thirdly, it is crucial to prioritize the cultivation of students' comprehensive qualities, encompassing communication skills, leadership abilities, and a strong sense of responsibility. These qualities constitute a pivotal aspect of the craftsmanship spirit. Fourthly, foster a culture of excellence among students. Provide incentives, including scholarships and honorary titles, to motivate students to excel in their academic pursuits and foster a spirit of innovation. Fifthly, strengthen career guidance, enhance collaboration with enterprises, and align the effectiveness of education with enterprise satisfaction. Continuously integrate enterprise production elements into the teaching process. Consider enterprise satisfaction as a crucial metric for assessing the quality of education. Provide students with internship and employment opportunities. Gain a thorough understanding of the needs of enterprises and markets, thereby fostering a profound sense of "craftsmanship".

4.2 Improve the Construction of the Curriculum System and Integrate Elements of "Craftsmanship Spirit"

Curriculum serves as an efficient vehicle for vocational colleges to foster talent development. Firstly, curriculum objectives should be established, integrating elements of the "craftsmanship spirit". During the process of setting course objectives, the element of "craftsmanship spirit" must be seamlessly integrated, with clear definitions established for fostering students' professional qualities and craftsmanship spirit. Secondly, elements of the "craftsmanship spirit" should be incorporated into the curriculum. Professional, elective, and practical courses related to the spirit of craftsmanship should be offered to enable students to comprehend and master its concepts and values. Thirdly, it is crucial to introduce corporate and social resources. Collaborative efforts with enterprises should be made to introduce resources,

incorporating the needs and requirements of enterprises and society for the craftsmanship spirit into the curriculum. Furthermore, corporate mentors should be invited to deliver lectures on campus, and practical teaching collaborations with enterprises should be established. Fourthly, we shall implement vocational education with an emphasis on fostering the spirit of craftsmanship. Attention should be paid to vocational education, particularly the cultivation of the craftsmanship spirit. We will conduct relevant courses, lectures, and practical activities to assist students in comprehending the significance of vocational literacy, thereby fostering their vocational literacy and the spirit of craftsmanship^[6]. Fifthly, it is imperative to enhance the teaching evaluation mechanism. Utilizing students' professional competence and craftsmanship spirit as key metrics in the evaluation process.

4.3 Strengthening Practical Teaching and Cultivating Students' Practical Abilities in the Spirit of Craftsmanship

Practical teaching can aid students in gaining a deeper understanding of the demands of practical work. Firstly, it is imperative to enhance practical teaching activities to afford students more opportunities to engage in practical work and projects. By offering practical courses, project-based learning, and internship opportunities, students can enhance their problem-solving abilities and innovative spirit through hands-on experience. Secondly, simulating actual work scenarios can facilitate students' comprehension of the demands of practical work and the significance of the craftsmanship spirit. Simulation roles and role-playing activities can be provided to assist students in grasping the practical application of professional ethics and the craftsmanship spirit. Thirdly, introducing corporate mentors to deliver lectures and conduct practical teaching sessions can bring real-world cases and work demands from the industry, enabling students to gain a deeper understanding of enterprise and market needs. Additionally, they can impart practical experience and the craftsmanship spirit, serving as role models for students. Fourthly, organizing skill competitions can encourage student participation and enhance their skills and competitiveness through competition. Simultaneously, incorporating skill competitions as a form of practical teaching and introducing student internship achievements for a comprehensive evaluation can facilitate the enhancement of practical teaching standards in vocational colleges.

4.4 Creating a Campus Cultural Atmosphere and Building a Cultural Brand of "Craftsman Spirit"

Establishing an atmosphere is crucial for fostering an educational environment. Firstly, it is essential to promote the concept and values of the "craftsmanship spirit". Promote the concept and values of the "craftsmanship spirit" via various channels such as campus broadcasting, bulletin boards, and websites to enhance understanding and acceptance among students and teachers. Secondly, organizing themed events dedicated to the spirit of craftsmanship is crucial. Regularly organizing themed activities, including seminars, symposiums, and lectures, is beneficial for students and teachers

to grasp the essence and practical applications of the craftsmanship spirit. Thirdly, establishing educational bases for fostering the craftsmanship spirit, such as artisan museums and studios, is essential. The aim is to enhance students and teachers' comprehension of the historical background and contemporary state of the craftsmanship spirit, as well as their grasp of its underlying principles and practical applications. The fourth aspect involves showcasing universities' accomplishments in striving for excellence through various platforms, including commendation conferences, exhibitions of outstanding achievements, and high-quality courses. This serves to foster a cultural environment that promotes excellence, motivating teachers and students to pursue excellence, perfection, and maintain a positive mindset and spiritual perspective.

4.5 Strengthening the Construction of the Teaching Staff and Improving the Level of Teachers' Craftsmanship Spirit Literacy

Establishing a team with commendable professional ethics and craftsmanship is crucial for enhancing skills. Firstly, prioritize the establishment of a "craftsman-oriented" teaching staff. By leveraging internal training, external recruitment, and industry-education integration, we seek to cultivate high-level "teaching innovation," "scientific research innovation," and "life mentor" teams. Encouraging teachers to engage in corporate practices and technical services will enhance their practical abilities and technical proficiency. Secondly, implement vocational training for teachers to ensure they comprehend and master the essence and practical techniques of the craftsmanship spirit. Through on-campus training, corporate internships, and participation in industry conferences, teachers can enhance their professional capabilities and skill-sets. Thirdly, establish incentive mechanisms to motivate teachers to actively engage in fostering and perpetuating the craftsmanship spirit. Each school should cultivate a cadre of exemplary figures strongly aligned with the "craftsmanship spirit," tailored to their unique context. Emphasizing the spiritual essence of "craftsmanship" and acknowledging teachers' contributions in nurturing students' craftsmanship spirit is crucial^[7]. Fourthly, it is imperative to bolster international exchanges and collaborations. By introducing advanced craftsmanship training concepts and experiences from abroad, fostering the international growth of the teaching faculty, facilitating teachers' participation in international conferences, executing international collaboration projects, and adopting other means, we can elevate teachers' international perspective and innovative capabilities.

4.6 Carry Out School Enterprise Cooperation and Expand Resources for Cultivating the Spirit of Craftsmanship

Schools and enterprises establish close collaborative relationships to jointly develop talent training programs, share resources, and organize cultural practice activities. Firstly, strengthen educational synergy by jointly carrying out talent cultivation work through various forms, including order training and joint training. Expose students to the actual work needs and cultural atmosphere of enterprises during their school years to enhance their understanding and mastery of the practical application

of craftsmanship spirit. Secondly, jointly develop talent development plans by integrating the actual needs and cultural elements of enterprises into teaching to cultivate students' professional qualities and craftsmanship spirit. Simultaneously, introduce enterprise management standards to enhance the comprehensive evaluation of students, thereby gaining a deeper understanding of their professional competence and craftsmanship level. Thirdly, share resources such as practical teaching bases, corporate mentors, and corporate culture to provide students with more practical opportunities through cooperative education and joint construction of practical training and internship bases. Finally, conduct cultural practice activities Such as corporate culture week, internship experience, career planning, etc., enable students to better understand the cultural values and actual work needs of the enterprise, and provide excellent talent selection channels for the enterprise. The associated logical architecture is shown in Figure 3

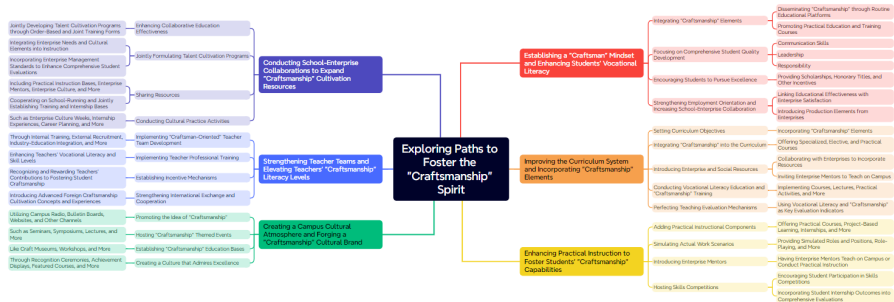


Fig. 3. Practical paths for cultivating the spirit of craftsmanship

5 Conclusion and Outlook

Through in-depth exploration and practice of cultivating the spirit of craftsmanship in vocational colleges, we have conducted more in-depth theoretical research on its connotation and evaluation standards. The spirit of craftsmanship is not only a pursuit of skills, but also a reflection of professional attitude, values, and philosophy of life. In vocational education, it requires students to not only master professional skills, but also pay more attention to the spiritual pursuit of excellence and excellence, as well as a dedicated, focused, and innovative attitude towards work.

On the basis of clarifying the connotation of "craftsmanship spirit", we have clarified its specific requirements and implementation standards in vocational education. This includes establishing students' awareness of "craftsmanship", improving the curriculum system to incorporate elements of "craftsmanship spirit", strengthening practical teaching to cultivate students' practical abilities, creating a campus cultural atmosphere to create a "craftsmanship spirit" cultural brand, and strengthening the

construction of the teaching staff to enhance the level of "craftsmanship spirit" literacy of teachers.

At the same time, we have fully considered the characteristics and differences of different vocational colleges, and proposed more targeted and actionable solutions. For example, for engineering colleges, we emphasize the importance of practical teaching and school enterprise cooperation; For liberal arts colleges, we pay more attention to the cultivation of professional ethics and humanistic spirit. These measures aim to meet the needs of different educational environments and ensure the effectiveness and targeting of the cultivation of the spirit of craftsmanship. Through the implementation of these series of measures, we have successfully constructed a multi-dimensional "craftsmanship spirit" cultivation system, which not only improves the professional literacy and comprehensive ability of students, but also delivers a large number of high-quality skilled talents with "craftsmanship spirit" to society.

6 Expectation

Looking ahead to the future, with the development of the economy and society and the acceleration of industrial upgrading, the demand for highly skilled talents with the spirit of craftsmanship will become more urgent. Therefore, we need to further strengthen the research on the connotation and evaluation criteria of "craftsmanship spirit" in order to better guide vocational education practice.

We will continue to deepen our theoretical research on the spirit of craftsmanship, exploring its deeper value and significance. At the same time, based on the characteristics and development trends of vocational education, more scientific and reasonable evaluation standards should be formulated to comprehensively and objectively evaluate the level of students' craftsmanship spirit. Secondly, we will develop more personalized and differentiated training programs based on the characteristics and needs of different vocational colleges. In addition, we will strengthen exchanges and cooperation with international advanced educational institutions, introduce advanced concepts and experiences in cultivating the spirit of craftsmanship from abroad, and continuously improve the internationalization level of the cultivation of "craftsmanship spirit" in vocational colleges in China.

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