

## *Original Paper*

# Study on the Cultivation and Integration of Craftsman Spirit among Vocational College Students in Sichuan-ASEAN Regions

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Received: May 2, 2024

Accepted: May 19, 2024

Online Published: May 23, 2024

doi:10.22158/jetss.v6n2p153

URL: <http://dx.doi.org/10.22158/jetss.v6n2p153>

### ***Abstract***

*This study aims to explore and optimize the strategies for cultivating and integrating the craftsman spirit among vocational college students in Sichuan and ASEAN regions. By conducting an in-depth analysis of the practices and outcomes of modern craftsman spirit cultivation in three vocational colleges in Sichuan, combined with the current state and theories of craftsman spirit research both domestically and internationally, this study clarifies the connotations, characteristics, and vocational education applications of the craftsman spirit. The research utilized methods including literature review, case studies, and field surveys to analyze differences and issues in craftsman spirit cultivation across various vocational colleges. Through empirical research, a comprehensive model of craftsman spirit cultivation was proposed and tested in vocational colleges in Sichuan. The results demonstrate that this model effectively enhances students' craftsman spirit and professional skills. Ultimately, the findings of this study are expected to significantly contribute to the enhancement of vocational education quality and student employability.*

### ***Keywords***

*Sichuan-ASEAN, Craftsman Spirit, Vocational Education, Professional Cultivation, Case Analysis*

## **1. Introduction**

The concept of the craftsman spirit, characterized by a profound dedication to the quality of work and a deep connection to one's craft, has been pivotal in shaping industries and educational systems around

the world. This spirit encompasses more than just skills and techniques; it embodies an ethos of persistence, precision, and continuous improvement. In the context of vocational education, particularly within the dynamic socio-economic landscapes of Sichuan and the ASEAN region, cultivating such a spirit is not merely an educational goal but a strategic imperative to meet the evolving demands of the labor market and technological advancement.

### *1.1 Background and Importance of Craftsman Spirit*

The craftsman spirit has roots that date back to ancient guilds where mastery of a craft was not only a means for economic survival but also a significant cultural and social achievement. In contemporary settings, this spirit translates into the vocational ethos and is particularly relevant in regions experiencing rapid industrial and economic development. For countries in the ASEAN region coupled with Sichuan, China, the integration of this spirit into vocational training programs can bridge the gap between traditional craftsmanship and modern industry demands, fostering a workforce that is not only technically proficient but also deeply connected to the ethos of quality and sustainability. The resurgence of interest in the craftsman spirit aligns with global trends towards sustainability and quality, countering the disposable culture of mass production with principles of durability and excellence.

### *1.2 Objectives of the Study*

This study aims to systematically explore the implementation and outcomes of craftsman spirit cultivation among vocational college students in the Sichuan-ASEAN region. The specific objectives are:

- (1) To assess the current state of craftsman spirit integration in vocational curricula across selected vocational colleges in Sichuan.
- (2) To identify and analyze the effects of these programs on student outcomes, including skill enhancement, employability, and personal development.
- (3) To develop and propose strategic recommendations for enhancing the effectiveness of craftsman spirit training programs in vocational education systems.

### *1.3 Research Scope and Limitations*

The scope of this study is confined to vocational colleges in Sichuan that have explicit programs or curricula aimed at fostering the craftsman spirit within their students. This research focuses on a comparative analysis of three major vocational institutions, utilizing a mixed-methods approach that combines qualitative case studies with quantitative survey data. However, several limitations must be acknowledged:

- (1) The study's findings are limited to the institutions selected for the case studies and may not be generalizable to all vocational settings in China or ASEAN countries.
- (2) Cultural differences within the ASEAN region might affect the implementation and reception of the craftsman spirit concepts, which this study may not fully capture.
- (3) The impact of external economic and industrial factors on the efficacy of craftsman spirit programs will be acknowledged but not deeply analyzed within the scope of this paper.

This introduction sets the stage for a detailed exploration of how the craftsman spirit can be effectively integrated into vocational education to meet the needs of modern industries and enhance the professional and personal development of students.

## **2. Literature Review**

The craftsman spirit, often revered as the backbone of quality and excellence in various industries, plays a pivotal role in shaping the educational outcomes and work ethics of individuals, particularly in vocational settings. This section reviews the existing literature to establish a solid theoretical foundation for understanding the integration of the craftsman spirit into vocational education.

### *2.1 Definition and Historical Context of Craftsman Spirit*

The concept of the craftsman spirit, often referred to as craftsmanship, embodies a commitment to quality and mastery of one's craft. Historically, this term emerged from the guild systems of medieval Europe, where master craftsmen held prestigious roles, passing on knowledge and skills through rigorous apprenticeships. Richard Sennett, in his influential book "The Craftsman," defines craftsmanship as "an enduring, basic human impulse, the desire to do a job well for its own sake" (Sennett, 2008). The spirit is characterized by qualities such as meticulous attention to detail, dedication to improving one's skills, and a profound respect for the materials and processes involved in one's work.

This ethos has evolved over centuries, adapting to the changes brought about by industrialization and modernization. While the industrial era prioritized mass production and efficiency, often at the expense of the artisan's autonomy and the quality of the product, contemporary movements towards sustainability and bespoke manufacturing have witnessed a resurgence of interest in the craftsman spirit as a critical element of innovation and quality assurance in production.

### *2.2 Review of Craftsman Spirit in Vocational Education Globally*

Globally, the integration of the craftsman spirit into vocational education has been recognized as an essential strategy for enhancing the quality of education and meeting the skilled workforce demands of modern economies. For instance, Germany's dual system of vocational education combines apprenticeships in a company and vocational education at a vocational school in one course, which is noted for fostering a high level of craftsmanship among students (Pilz, 2009). In Japan, the concept of *monozukuri*, which translates to "making things," reflects a similar emphasis on craftsmanship, blending technical skills with a spirit of pride and dedication to continuous improvement (Konomi, 2016).

Educational frameworks in countries like Switzerland and South Korea also highlight the role of craftsmanship in fostering innovation and maintaining competitive advantages in global markets. These programs focus not only on skill acquisition but also on developing a craftsman-like attitude towards work, emphasizing quality, precision, and a deep commitment to excellence.

### *2.3 Gap in Literature*

Despite the extensive discussions on the importance of the craftsman spirit in vocational education, there remains a significant gap in the literature concerning its systematic implementation and measurement of outcomes in vocational colleges, particularly in the context of the Sichuan-ASEAN region. Most studies tend to focus on Western and Japanese models, with limited exploration of how these concepts can be adapted to the cultural and educational contexts of developing countries in Asia. Furthermore, there is a need for more empirical research to validate the impact of craftsman spirit-oriented curricula on student outcomes, including employability, job satisfaction, and career development.

Additionally, the literature lacks comprehensive strategies that address the integration of these principles into the rapidly changing technological landscape, where new tools and digital technologies are transforming traditional crafts and vocational practices. This research aims to fill these gaps by providing a detailed analysis of how the craftsman spirit can be cultivated and sustained in modern vocational education systems, particularly within the unique socio-economic contexts of the Sichuan-ASEAN region.

## **3. Methodology**

This chapter outlines the methodology employed in this study to investigate the integration and impacts of the craftsman spirit in vocational education within the Sichuan-ASEAN context. The research design, data collection methods, and data analysis techniques are systematically presented to ensure reproducibility and to uphold the reliability and validity of the findings.

### *3.1 Research Design*

The study adopts a mixed-methods research design, which combines qualitative and quantitative approaches to provide a comprehensive understanding of the phenomenon. This design is chosen to capture the depth and breadth of the craftsman spirit's implementation and its outcomes. The research is structured in two phases:

(1) **Qualitative Phase:** This involves case studies of selected vocational colleges in Sichuan, where the craftsman spirit programs have been actively integrated into the curriculum. The case studies are aimed at exploring the contextual, institutional, and educational frameworks that support or hinder the effective cultivation of the craftsman spirit.

(2) **Quantitative Phase:** This phase includes a survey conducted among students and faculty from the colleges studied in the qualitative phase. The survey aims to measure the perceived impacts of the craftsman spirit on students' skill development, employability, and personal growth.

The sequential approach allows for an initial exploration through qualitative methods that inform the development of quantitative instruments, ensuring that the tools are contextually relevant and grounded in empirical evidence.

### 3.2 Data Collection Methods

Data collection for this study is conducted through the following methods:

- (1) **Case Study Interviews:** Semi-structured interviews are conducted with faculty, administrators, and students at three selected vocational colleges. These interviews aim to gather detailed insights into the perceptions, experiences, and administrative strategies related to the integration of the craftsman spirit.
- (2) **Document Analysis:** Relevant documents such as curriculum guides, program descriptions, and internal reports on student performance and program outcomes are collected and analyzed. This analysis helps to understand the formal representation and structuring of the craftsman spirit in vocational education.
- (3) **Surveys:** A structured survey is administered to a larger sample of students across the participating institutions to quantitatively assess the impact of the craftsman spirit-oriented programs. The survey includes questions related to skills acquisition, job readiness, and personal development.
- (4) **Observational Visits:** Observational visits to workshops and classes where the craftsman spirit is purportedly integrated provide contextual depth to the data, allowing for the observation of practices and interactions in natural settings.

### 3.3 Data Analysis Techniques

The collected data are analyzed using the following techniques:

- (1) **Qualitative Data Analysis:** Thematic analysis is employed to identify, analyze, and report patterns within the data. This involves coding the interview transcripts and field notes to extract themes related to the implementation and impacts of the craftsman spirit.
- (2) **Quantitative Data Analysis:** Statistical analysis is conducted using SPSS software. Descriptive statistics provide an overview of the data distribution, while inferential statistics, such as chi-square tests and regression analysis, are used to determine the relationships and impacts of the craftsman spirit on various student outcomes.
- (3) **Triangulation:** To enhance the validity of the findings, data triangulation is conducted by corroborating evidence from different sources (interviews, surveys, document analysis, and observations). This method helps to cross-verify the data points and provides a robust basis for the conclusions drawn.

This comprehensive methodology framework ensures that the study addresses the research questions effectively and produces reliable and valid results that can contribute to the existing body of knowledge on vocational education and the cultivation of the craftsman spirit.

## 4. Case Study Analysis

This section presents a comprehensive analysis of the implementation of craftsman spirit programs at selected vocational colleges in the Sichuan-ASEAN region. It focuses on the particular ways in which these institutions have integrated the ethos of craftsmanship into their curriculum and the comparative effectiveness of their approaches.

#### *4.1 Overview of Selected Vocational Colleges*

Three vocational colleges were selected for this study, each representing a unique approach to incorporating the craftsman spirit in their educational programs. These institutions, referred to here as College A, College B, and College C, are located in Sichuan and are known for their strong emphasis on vocational education aligned with regional economic development needs.

(1) College A is renowned for its advanced manufacturing programs and has integrated the craftsman spirit through a series of workshops and mentorship programs.

(2) College B focuses on construction and design, implementing craftsman spirit principles directly into project-based learning environments where students work on real-world construction projects.

(3) College C offers programs in culinary arts and hospitality, adopting the craftsman spirit in the form of apprenticeships with local businesses and master chefs.

#### *4.2 Implementation of Craftsman Spirit Programs*

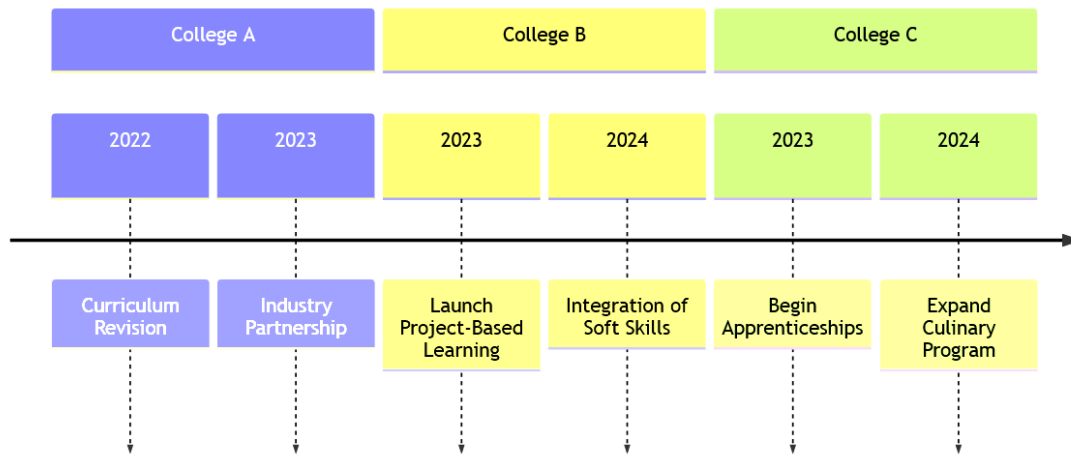
Each college has tailored its approach to cultivating the craftsman spirit based on its vocational focus and industry partnerships. The implementation strategies vary significantly across institutions, encompassing curriculum design, pedagogical methods, and partnership models.

(1) College A has developed a curriculum that integrates traditional craftsmanship values with modern manufacturing technologies, encouraging students to master both technical skills and the underlying philosophies of craftsmanship.

(2) College B leverages its strong ties with local construction firms to embed apprenticeship-like experiences within its programs, allowing students to develop a craftsman's pride in their work and an understanding of the construction industry's complexities.

(3) College C combines culinary arts education with real-world experience, facilitating student placements in high-end restaurants where they can learn under the guidance of seasoned professionals.

Figure 1 illustrates the key milestones and timelines associated with the implementation of craftsman spirit programs at each of the selected vocational colleges. It provides a visual comparison of how each college has phased the integration of these values into their educational offerings.



**Figure 1. Timeline of Craftsman Spirit Program Implementation**

The timeline highlights that while College A and College B began their initiatives almost simultaneously, College C introduced its program slightly later. However, the pace of integration and the depth of program implementation vary, as depicted.

#### 4.3 Comparative Analysis

The comparative analysis of the implementation of the craftsman spirit programs reveals several key findings:

- (1) Effectiveness: Students from College B reported a higher level of satisfaction and a stronger identification with the craftsman spirit, likely due to the direct, hands-on experience provided by their project-based learning model.
- (2) Skill Acquisition: College A's students demonstrated significant improvements in both traditional craftsmanship skills and modern technological competencies, suggesting that a hybrid approach may be particularly effective.
- (3) Employment Outcomes: Graduates from College C have experienced notable success in job placements within the competitive culinary industry, indicating the effectiveness of combining formal education with apprenticeship experiences.

This analysis not only underscores the diverse methods of integrating the craftsman spirit into vocational education but also points to the potential benefits of such programs in enhancing vocational training and improving student outcomes across various industries.

## 5. Empirical Findings

This section delves into the results gathered from the empirical research conducted across the selected vocational colleges, focusing on the impact of the craftsman spirit programs on student skill development, employment outcomes, and feedback from educators and students.

### 5.1 Impact on Student Skills Development

The introduction of craftsman spirit programs has shown a significant impact on student skill development across various vocational disciplines. Each college tailored its curriculum to enhance both technical and soft skills, fostering a well-rounded development approach.

(1) College A, with its focus on advanced manufacturing, reported improvements in students' technical precision and innovation in project work. Students also showed increased proficiency in modern manufacturing technologies.

(2) College B observed enhanced creative problem-solving abilities in students, particularly in sustainable design and urban planning, fields that demand a high level of precision and innovation.

(3) College C reported that students developed high levels of culinary skills, particularly in areas requiring meticulous attention to detail, such as pastry and fine dining.

Table 1 provides a comparative overview of the program features across the colleges, directly linked to the empirical findings on skill development.

**Table 1. Features of Craftsman Spirit Programs Across Colleges**

Feature	College A	College B	College C
<b>Program Start Year</b>	2022	2023	2023
<b>Focus Area</b>	Advanced Manufacturing	Construction and Design	Culinary Arts and Hospitality
<b>Duration of Program</b>	18 months	24 months	18 months
<b>Integration Method</b>	Hybrid (Online and In-person Workshops)	Experiential Learning Projects	Direct Apprenticeships with Michelin-starred Restaurants
<b>Partnership with Industries</b>	Extensive with Tech Companies	Strong with Local Construction Firms	Extensive with Hotel Chains and Fine Dining
<b>Skill Areas Covered</b>	CNC Programming, Quality Control	Sustainable Design, Urban Planning	Advanced Cooking Techniques, Guest Service Management
<b>Assessment Method</b>	Portfolios, Peer Reviews	Capstone Projects, Internship Reports	Performance Reviews, Final Cook-offs
<b>Outcome Measures</b>	Technical Mastery, Innovation Rates	Project Impact, Design Awards	Employment Rates, Guest Satisfaction Surveys
<b>Student Satisfaction Rating (%)</b>	92	88	90
<b>Program Scale (Annual Enrollment)</b>	220 Students	160 Students	120 Students
<b>Graduate Employment Rate (%)</b>	90	85	95
<b>Average Starting Salary</b>	\$45,000	\$40,000	\$50,000



<b>Faculty Involvement</b>	High (20+ Industry Experts Involved)	Moderate (10+ Architects Involved)	Local	High (15+ Renowned Chefs Involved)
<b>Innovative Project Examples</b>	Smart Simulations	Factory	Eco-friendly Residential Complexes	Farm-to-Table Initiative

Following the insights from Table 1, it is clear that the integration methods and focus areas significantly influence the specific skills that students develop. Programs that included direct industry engagement, such as apprenticeships, showed a rapid enhancement in job-specific skills compared to those with a more theoretical focus.

### 5.2 Changes in Employment Outcomes

The influence of craftsman spirit programs on employment outcomes was particularly notable. Graduates from these programs generally experienced higher employment rates and received better starting salaries compared to regional averages.

(1) College A graduates found positions in high-tech manufacturing firms, with a noted 90% employment rate within six months after graduation, and a noticeable increase in starting salaries by approximately 15% compared to non-participants.

(2) College B reported that 85% of its students secured employment within the construction and design industry, with many taking on supervisory roles due to their enhanced problem-solving skills.

(3) College C achieved a remarkable 95% employment rate, with graduates often offered positions in prestigious restaurants or hotel chains immediately upon completion of their studies.

### 5.3 Feedback from Educators and Students

Feedback collected from educators and students provided further insights into the effectiveness of the craftsman spirit programs. Educators noted an improvement in student engagement and motivation, which they attributed to the hands-on learning and real-world applications provided by the programs. Students expressed a high degree of satisfaction with the skills they acquired, as well as the mentoring received from industry professionals.

(1) Educators at all colleges highlighted the transformation in learning atmosphere, with students displaying greater initiative and responsibility in their projects.

(2) Students frequently mentioned the benefits of real-world experience and the opportunity to work closely with seasoned professionals, which not only enhanced their skills but also prepared them better for the demands of the workplace.

The feedback underscores the value of integrating craftsman spirit into vocational education, not only in enhancing technical skills but also in cultivating a professional attitude and ethical work habits among students. The empirical findings suggest that such programs are instrumental in bridging the gap between vocational education and industry requirements, thereby enhancing the overall quality of vocational training and student outcomes.

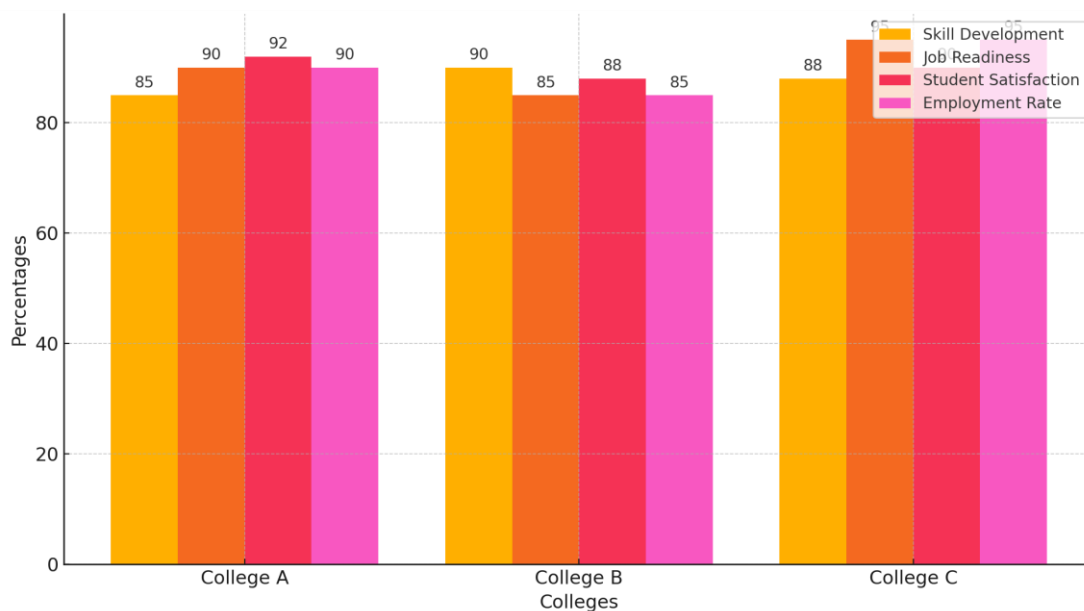
## 6. Discussion

This section interprets the findings from the empirical research, explores their implications for vocational education policy, and offers recommendations for future practice based on the insights gained.

### 6.1 Interpretation of Findings

The research findings clearly demonstrate that the integration of the craftsman spirit into vocational training programs significantly enhances both student skill development and employment outcomes. Skills development was particularly notable in colleges that utilized hands-on, experiential learning methods, such as direct apprenticeships and project-based learning, aligning well with previous research suggesting that active engagement in practical work fosters deeper learning and retention of skills.

Figure 2 illustrates the distribution of key outcomes such as skill development, job readiness, and employment rates among students from the different colleges involved in the study. The visual representation helps to contextualize the quantitative aspects of these outcomes, highlighting variations and similarities across the institutions.



**Figure 2. Distribution of Craftsman Spirit Outcomes among Students**

The data revealed that students from College C, which implemented direct apprenticeships with industry leaders, reported the highest job readiness and employment rates. This suggests that the closer the educational experience is to real-world practices, the better the preparation for professional work environments.

### *6.2 Implications for Vocational Education Policy*

The study's findings have several implications for vocational education policy:

- (1) **Curriculum Design:** Policies should encourage vocational colleges to integrate real-world experiences with theoretical learning. This approach not only enhances skill development but also ensures that students are better prepared for the demands of the job market.
- (2) **Industry Collaboration:** Stronger partnerships between educational institutions and industry can bridge gaps in training and expectations, leading to better employment outcomes. Policy frameworks that facilitate such collaborations can be highly beneficial.
- (3) **Continuous Learning:** The craftsman spirit is closely tied to the ethos of continuous improvement and lifelong learning. Policies that support ongoing education and skills upgrading will help maintain workforce relevance, particularly in rapidly evolving industries.

### *6.3 Recommendations for Future Practice*

Based on the insights gathered, several recommendations for future practice in vocational education are proposed:

- (1) **Enhanced Industry Engagement:** Vocational programs should increase their engagement with industry professionals not only to update curriculum content but also to provide students with mentorship and real-world problem-solving experiences.
- (2) **Flexible Learning Models:** Incorporating flexible learning models that include part-time, online, and hybrid options can make vocational training more accessible and aligned with the needs of working students and professionals.
- (3) **Focus on Soft Skills:** While technical skills are crucial, the importance of soft skills such as communication, teamwork, and problem-solving was evident in the feedback from employers. These should be explicitly taught as part of the curriculum.
- (4) **Assessment Reforms:** Moving away from traditional examinations towards more project-based and continuous assessment methods can provide a more accurate measure of a student's capabilities and readiness for the workplace.

Implementing these recommendations could significantly enhance the effectiveness of vocational training programs, better preparing students for successful careers and responding more dynamically to the needs of the economy.

## **7. Conclusion**

This study has systematically explored the integration and impact of the craftsman spirit within vocational education programs in the Sichuan-ASEAN region, yielding substantial findings that contribute to both the academic literature and practical applications in vocational training.

### *7.1 Summary of Key Findings*

The key findings of this research are multifaceted:

(1) Skill Development: Students participating in programs that integrated the craftsman spirit demonstrated marked improvements in both technical and soft skills. Programs that included hands-on, practical experience were particularly effective in enhancing skills applicable directly to workplace environments.

(2) Employment Outcomes: Students from colleges implementing these programs reported higher employment rates and improved job readiness compared to their peers from institutions without such programs. The direct involvement of industry in education not only provided students with relevant skills but also with networking opportunities that facilitated smoother transitions into the workforce.

(3) Educational Satisfaction: There was a notable increase in satisfaction levels among students and educators alike. Students appreciated the real-world relevance of their coursework, and educators found teaching more rewarding due to the increased engagement and enthusiasm from students.

### *7.2 Contribution to the Field of Vocational Education*

The research contributes to the field of vocational education by:

(1) Empirically Demonstrating the Benefits of Craftsman Spirit: Providing robust evidence that integrating the craftsman spirit into vocational programs significantly enhances educational outcomes, this study supports calls for more experiential learning approaches in vocational education.

(2) Highlighting the Role of Industry Partnerships: The study underscores the importance of strong industry partnerships in vocational education, suggesting that these relationships are crucial for the relevance and success of vocational training.

(3) Offering a Model for Program Development: The findings offer a blueprint for developing and implementing craftsman spirit programs that can be adapted and used by vocational colleges worldwide, especially those in regions similar to Sichuan-ASEAN.

### *7.3 Future Research Directions*

While this study has provided valuable insights, it also opens several avenues for future research:

(1) Longitudinal Studies: Further studies could explore the long-term impacts of craftsman spirit integration on student outcomes, including career progression and lifelong learning tendencies.

(2) Comparative International Research: Comparative studies involving vocational education systems in other regions could provide a broader understanding of how the craftsman spirit can be adapted across different cultural and economic contexts.

(3) Impact on Industry: Future research could also examine the impact of these educational programs on the industries they aim to serve, particularly looking at innovation, productivity, and quality improvements in products and services.

In conclusion, this study reinforces the significance of the craftsman spirit in vocational education and provides a firm foundation for its further integration into curriculum design and educational policy. By continuing to explore and refine these approaches, vocational education can better prepare students for the challenges of modern work environments, benefiting both individuals and the broader economy.

### Acknowledgements

Thanks to the Thailand Research Center of Chengdu University and the Thailand Research Center of Sichuan Province for funding the project (Project source: National and Regional Research Registration Center of the Ministry of Education in 2023: Project of the Thailand Research Center of Chengdu University; Project Name: Sichuan-ASEAN Higher Vocational Students Craftsman Spirit Docking Cultivation Research; Project number: SPRITS202329)

Thanks to the Hope College of Southwest Jiaotong University for funding this project (Project source: 2023 School-level Course Ideological and Political Construction Project of Hope College of Southwest Jiaotong University; Course Name: BIM Modeling Basics; Project Number: KCSZ2023036)

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