

Research on the Cultivation of Craftsmanship in Huang Yanpei's Education Thought

Shang Wang*, Fei Peng, Jie Qiu

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: Skilled talents are the main support for the strategic development of science and technology in China. The quality of talents is an important guarantee for the transformation and upgrading of national industries. By analyzing and studying Huang Yanpei's thought on vocational education, this paper focuses on the cultivation of students' craftsmanship in vocational schools. First, we analyze the results of previous research and then elaborate on the connotations of Huang Yanpei's education thought and craftsmanship spirit. Lastly, we propose five suggestions for the cultivation of craftsmanship. Our research work carries certain reference value to the study of craftsmanship cultivation in Huang Yanpei's education thought.

Keywords: Cultivation of craftsmanship; Craftsmanship; Teaching; Huang Yanpei's education thought

Online publication: March 20, 2023

1. Introduction

The vigorous development of vocational education is an inevitable requirement for promoting economic and social development and building a strong country in science and technology. In recent decades, vocational education has provided strong talent support for the rapid development of the national economy. With the acceleration of industrial upgrading and economic transformation, the demand for high-level skilled personnel in various industries and the value of vocational education are increasing ^[1]. With the announcement of the Made in China 2025 Initiative, China has accelerated the transformation from "Made in China" to "Made with Quality" and "Created in China." Meeting the requirements of the changing times and strengthening the cultivation of students' craftsmanship are the missions given to vocational education. However, at present, there are problems, such as lacking follow-ups of concepts, designs of teaching contents, and innovation in collaboration with enterprises, in cultivating students' craftsmanship in vocational schools ^[2].

A century ago, Huang Yanpei put forward his educational thought, which includes "using hands and brains" and "doing and learning together," pointing out the direction for the development of vocational education in China ^[3]. The cultivation of craftsmanship is an important element of Huang Yanpei's education thought. In order to ensure the development of vocational education, it is important to explore the value of Huang Yanpei's education thought from the perspective of cultivating craftsmanship ^[4].

2. Research status

Huang Yanpei's thought on vocational education has been a hotspot in research, especially among vocational education academia, and a large number of studies have been conducted. Chen ^[5] carried out an in-depth study of Huang Yanpei's education thought in the new era, proposing that the idea of "sanctity of

labor” should be established in vocational education and emphasis should be placed on vocational education and professional ethics education. Yan ^[6] explored Huang Yanpei’s thought on vocational education and its contemporary inspiration. According to Yan, vocational schools should carry forward Huang Yanpei’s education thought, cultivate the spirit of craftsmanship, and better serve the society. On the other hand, Liu ^[7] studied the formation, connotation, and value of Huang Yanpei’s education thought in the modern world. He believes that the inheritance of Huang Yanpei’s education thought plays a significant role in the development of vocational schools. Wang ^[8] studied the application of Huang Yanpei’s education thought in the new era and argued that vocational schools in the new era should draw on Huang Yanpei’s education thought and experience and combine with the modern apprenticeship system to form a training model in which production, learning, and doing are mutually integrated. Cai ^[9] reflected on Huang Yanpei’s education thought in the context of modern apprenticeship. He considers the modern apprenticeship system as a means of implementing the hand-brain system and integrating industry with education. Gao ^[10] studied the “four directions” of Huang Yanpei’s education thought. According to Gao, Huang Yanpei’s education thought has far-reaching significance for the healthy development of vocational education in China. Wu ^[11] studied the inspiration of Huang Yanpei’s education thought to the cultivation of craftsmanship. He believes that excellence is the core of craftsmanship spirit and vocational school students must respect their profession. Zhao ^[12] analyzed the influence of Huang Yanpei’s education thought on the professional development model of teachers and proposed several strategies for teacher training based on Huang Yanpei’s thought on vocational education. Song ^[13] and Guo ^[14] studied the positive correlation between vocational education and socio-economic development, taking Huang Yanpei’s thought on “big vocational” education as an example. According to these scholars, this education thought acts as a guideline that enables people to break away from backward thinking and address the disconnections between industry and education in vocational education.

Craftsmanship is an objective need for building a strong country in science and technology. Scholars have carried out a lot of research on cultivating craftsmanship. Gao ^[15] studied the cultivation path of craftsmanship spirit in modern vocational education, suggesting that teachers should integrate the cultivation in the teaching process and strengthen the shaping of students’ professionalism. In addition, Zhang ^[16] studied the craftsmanship cultivation model in metallurgical higher vocational colleges and proposed the idea of nurturing craftsmanship from four aspects: the state, school, teachers, and students. In another study, Song ^[17] studied the cultivation path of craftsmanship. According to Song, the cultivation of craftsmanship is an important task, which can be accomplished by relying on the joint efforts of individuals, the society, and the state. Sun ^[18] studied the path of cultivating craftsmanship spirit in higher vocational schools from the perspective of excellent traditional Chinese culture, arguing that the essence of traditional Chinese culture should be fully drawn in the cultivation of craftsmanship spirit and that teachers should focus on cultivating humanistic feelings and professionalism among students. Bu ^[19] studied the strategies for cultivating craftsmanship among higher vocational teachers. He believes that higher education teachers should uphold the craftsmanship spirit so as to enable students to experience the craftsmanship spirit through their teaching. Li ^[20] studied the process of cultivating the craftsmanship spirit of labor culture in higher vocational students and argued that school-enterprise synergy must be adhered to in the cultivation of humanistic sentiment among students. Huang ^[21] conducted a study on the cultivation of craftsmanship in the new era, emphasizing that craftsmanship is an important part of the cultivation of high-quality skilled talents. Meanwhile, Yang ^[22] analyzed the status quo of cultivating craftsmanship spirit in vocational colleges. According to Yang, craftsmanship should be integrated into the whole teaching process to meet the goals of talent cultivation. Tal ^[23] studied the role of higher vocational physical education in cultivating craftsmanship and asserted that higher vocational schools should take physical education classroom as an important platform for cultivating craftsmanship.

3. Huang Yanpei's thought and craftsmanship

3.1. Huang Yanpei's thought

Huang Yanpei established the policy of “socialization, scientificization, and civilianization” in running education. According to Huang, the development of vocational education focuses on the needs of society, while the solution to the problems in vocational education depends on scientific methods. His suggestion to solve the problem of civilian livelihood centers on vocational education. Huang Yanpei put forward the principle of “using hands and brains” and “doing and learning together.” According to Huang, theory and practice are parallel and equally important. He stressed the importance of both knowledge and skills and put forward the education purpose of making the unemployed employed and those who are employed enjoy their work. His belief was that vocational education should first satisfy individuals in terms of earning a living, and it should then, on this basis, strive to achieve the function of serving the society. Furthermore, he argued that vocational education should adhere to the following fundamental values: “dedication to work and happiness” and “love for country and people.” It is important for students to develop the correct concept of personal career and a healthy mind to serve the society.

3.2. Craftsmanship

Craftsmanship represents not only a high-level skill, but also a rigorous, meticulous, dedicated, and responsible work attitude as well as a sense of identity, responsibility, honor, and mission for any profession. Craftsmanship is a form of value orientation and behavior toward a profession, that is, the practitioner's reverence for the profession and the persistent pursuit of excellence and continuous innovation in products and services. Richard Sonnett, a famous American sociologist, once pointed out that craftsmanship is the desire to do things well. It can be said that craftsmanship is the ultimate professionalism that is deeply rooted in the practitioner's inner being. Cultivating craftsmanship is not just a slogan; it should be implemented in vocational education and reflected in the thoughts and actions of every student. In the process of cultivating craftsmanship, higher vocational schools must first clarify the fundamental aspects of craftsmanship so as to cultivate students' craftsmanship personality and shape. It is only by doing so that we can cultivate student' personality and shape great craftsmen. Professional ethics is the heart of craftsmanship. At the level of professional ethics, craftsmanship is expressed as the spirit of dedication to work and selfless devotion as well as the sense of responsibility to do one's duty. At the level of professional and technical behavior, craftsmanship is expressed as the spirit of inquiry focusing on details and the consciousness of innovation and bold breakthroughs. The recognition and love for a profession are the foundations of craftsmanship. People will only develop professional trust for excellence and pursue the best if they have deep identifications with their professions.

4. Targeted suggestions

4.1. Strengthen ideological and political education

Higher vocational schools tend to overemphasize the cultivation of professional spirit, while neglecting ideological and political education. These institutions should fully integrate the cultivation of craftsmanship spirit into ideological and political education and combine the craftsmanship spirit with certain core values. Schools should educate students on vocational values when they first enter the school so that they can develop correct values and outlook on life. Teachers should encourage students to pay attention to technical development and recognize the inherent beauty of technology. Only when students have a better understanding of craftsmanship and the social value of technology can they realize the importance of craftsmanship.

4.2. Focus on cultivating craftsmanship

It is a common problem that vocational schools focus on professional course grades and employment rates, while neglecting the cultivation of craftsmanship. This has led to the neglect of moral education in many vocational schools. Higher vocational schools should put forward relevant policies to enhance the cultivation of craftsmanship spirit among students. Teachers should fully explore the nurturing elements in professional fields, such as the inspiring stories of how certain well-known experts have grown, in order to help students establish correct values and outlook on life. In addition to teaching sessions, teachers should also fully integrate craftsmanship into evaluation sessions. Besides, government agencies at all levels should assume craftsmanship as an important indicator to assess the school operation and talent training quality.

4.3. Strengthen school-enterprise cooperation

The cultivation of vocational talents should not be limited to school education; rather, students should also be taught on the production line of enterprises. Since the goal of vocational education is to supply skilled talents to enterprises, vocational education enterprises must focus on the integration of schools with enterprises and strengthen their cooperation with enterprises. Vocational schools should actively bring in experts and technicians from the industry to coach students like their own apprentice. Enterprise experts should pay attention to guiding students' outlook on life and emphasize the importance of skills in their teaching. Only in this way can students dedicate themselves to their work and take the initiative to ponder and learn about technology when they step into their workplace in the future.

4.4. Integration of professional learning with the cultivation of craftsmanship

Cultivating skilled talents is the core idea of vocational education. It is necessary to integrate craftsmanship into professional courses as it can effectively promote students' skill learning. Along with professional courses, teachers should also share some of the diligent measures taken by experts to promote students' motivation for learning. The infiltration of craftsmanship into the professional field can help students better understand why and how they can learn. Any technology is a matter of excellence and research. It is extremely important to develop good habits such as rising to challenges and actively striving in the pursuit of learning.

4.5. Cultivate craftsmanship in various practical activities

Strengthening social practice is an important step to improving the overall quality of students in vocational schools and cultivating their craftsmanship spirit. Practical activities are important not only to improve students' professional skills, but also to cultivate craftsmanship among students. Higher vocational schools should encourage students to actively participate in social practice activities. Through practical activities, students will develop a certain sense of identity with their profession and realize the important role of craftsmanship.

5. Conclusions

Nearly a century ago, Huang Yanpei proposed the principles of "using both hands and brains" and "doing and learning together." According to Huang, theory and practice are parallel and equally important. He emphasized the importance of both knowledge and skills and proposed the idea of making those unemployed employed and those who are employed enjoy their work, which is in line with the spirit of craftsmanship. Due to the upgrading and intelligence of industrial development, the number of people working purely by hand is decreasing; therefore, the advocacy of craftsmanship has weakened in today's society. At present, China is in a critical period of transformation from "Made in China" to "Created in

China,” and the society has put forward higher requirements for skilled talents. Industrial upgrading is inseparable from high-level skilled talents. The mastery and proficiency of skills are inseparable from craftsmanship. In the process of promoting quality education and accelerating education reform and development, higher vocational schools should integrate craftsmanship with vocational education.

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 F.P. conceived the idea of the study and wrote the first draft of the paper. J.Q. 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] Chen L, Zhao ZQ, 2022, Ecological Turn of Modern Vocational Education Talent Cultivation-Based on Perspective of Feenberg’s Technological Holism. *Tsinghua Journal of Education*, 43(4): 132–139. <http://doi.org/10.14138/j.1001-4519.2022.04.013208>
- [3] Li MQ, Liu QC, 2016, On the Pluralistic Influence, the Weakening Cause and the Reinforcement Strategy of Huang Yanpei’s Thoughts on “Socialization” of Vocational Education. *Vocational and Technical Education*, 37(33): 19–23. <https://doi.org/10.3969/j.issn.1008-3219.2016.33.005>
- [4] Tang C, 2016, On Huang Yanpei’s Thought of Localization of Vocational Education and Its Enlightenment to the Development of Higher Vocational Education. *Heilongjiang Researches on Higher Education*, 2016(8): 115–117. <https://doi.org/10.3969/j.issn.1003-2614.2016.08.034>
- [5] Chen Y, 2019, On Huang Yanpei’s Vocational Education Thought in the New Era. *Journal of Shijiazhuang Vocational Technology Institute*, 31(6): 10–13. <https://doi.org/10.3969/j.issn.1009-4873.2019.06.003>
- [6] Yan YY, 2019, Huang Yanpei’s View of Students in Vocational Education and Its Contemporary Enlightenment. *Vocational Education Research*, 2019(2): 92–96. <https://doi.org/10.3969/j.issn.1672-5727.2019.02.018>
- [7] Liu D, 2019, On the Development and Values of Huang Yanpei’s Vocational Education Thought. *Journal of Shijiazhuang Vocational Technology Institute*, 31(6): 6–9. <https://doi.org/10.3969/j.issn.1009-4873.2019.06.002>
- [8] Wang Q, 2019, The Application of Huang Yanpei’s Labor Education Ideology in the New Era. *Vocational Education Research*, 2019(12): 92–96.
- [9] Cai TJ, 2018, Reflections on Huang Yanpei’s Vocational Education Thought Under the Background of Modern Apprenticeship. *Journal of Wuhan Polytechnic*, 17(4): 19–22. <https://doi.org/10.3969/j.issn.1671-931X.2018.04.004>

- [10] Gao CQ, Qian XH, 2018, “Four-Orientation” of Huang Yanpei’s Vocational Education Thought. *Journal of Yan’an University*, 40(4): 114–118. <https://doi.org/10.3969/j.issn.1004-9975.2018.04.020>
- [11] Wu JN, 2018, Enlightenment of Huang Yanpei’s Vocational Education Thoughts on Cultivation of Craftsmanship in Higher Vocational Colleges. *Journal of Nanjing Institute of Industry Technology*, 18(3): 27–29. <https://doi.org/10.3969/j.issn.1671-4644.2018.03.008>
- [12] Zhao QH, 2018, A Brief Discussion on the Profound Influence of Huang Yanpei’s Vocational Education Thought on the Professional Development Mode of Higher Vocational Teachers. *Journal of Tianjin Vocational Institutes*, 20(10): 97–100. <https://doi.org/10.3969/j.issn.1673-582X.2018.10.021>
- [13] Song YQ, Sun WD, 2018, On the Positive Interaction between Vocational Education and Social Economy Development: From Huang Yanpei’s Idea of the Great Vocational Education. *Journal of Changzhou Vocational College of Information Technology*, 17(5): 1–4. <https://doi.org/10.3969/j.issn.1672-2434.2018.05.001>
- [14] Guo XM, 2017, Huang Yanpei’s Great Vocational Education and Its Enlightenment to the Construction of Modern Vocational Education System. *Journal of Continuing Higher Education*, 30(4): 67–71. <https://doi.org/10.3969/j.issn.1006-7353.2017.04.014>
- [15] Gao C, 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>
- [16] 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.1672-4461.2022.02.034>
- [17] 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>
- [18] 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>
- [19] 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>
- [20] 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>
- [21] 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>
- [22] 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>
- [23] 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>

Publisher’s note

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