Vol.1 No.10 2020
https://doi.org/10.37420/j.cer.2020.097

Research on the Inheritance and Innovation Paths of Industrial Culture in Engineering Higher Vocational Colleges

Hui Shen*, Tian Yu, Yonghong Ao
Chengdu Vocational &Technical College of Industry, Chengdu 610218, China
*Corresponding author, e-mail: 619982358@qq.com

Abstract: *The inheritance and innovation of industrial culture is the mission of higher vocational colleges of engineering. At present, there are some problems in the inheritance and innovation of industrial culture in engineering higher vocational colleges, such as poor mechanism, few channels, and poor research. The inheritance and innovation of industrial culture in engineering higher vocational colleges should integrate industrial culture into campus culture, and establish a new mechanism, new channel and new research of industrial culture inheritance and innovation.*

Keywords: *Higher vocational colleges; Industrial culture; Campus culture; Inheritane and innovate*

Introduction

As an important part of culture, the inheritance and innovation of industrial culture has become the proposition of the times. Engineering higher vocational colleges have unique advantages in inheriting and innovating industrial culture. However, due to factors such as poor mechanism, few channels and poor research, the inheritance and innovation of industrial culture still stay at the superficial level. Under the background of the new era, on the basis of the higher vocational colleges of engineering own professional characteristics and their actual situation, they should integrate excellent traditional culture, enterprise culture and school culture organically, building an innovation system of industrial culture inheritance, developing the connotation of industrial culture, enrich the value of industrial culture, and playing the role of culture in leading fashion, educating students, serving the society and promoting development.

Significance Analysis: The Importance of Industrial Culture Inheritance and Innovation for Engineering Higher Vocational Colleges

Inevitable Requirement of the Modernization of Vocational Education

The modernization of vocational education is an organic component of educational modernization. Improving quality and increasing efficiency has become the main theme of vocational education development, and the creation and gathering of innovative advantages has become an important proposition of vocational education

modernization. "China Education Modernization 2035" will vigorously promote the construction of campus culture as the routing strategy for education modernization. The construction of campus culture in higher vocational colleges has strong "professional characteristics" because of its connection with economy, industry and enterprise, but it faces the embarrassing situation of long-term lack of industrial culture. Industrial culture contains the essence of modern civilization, the ideological core of cooperation spirit, efficiency concept, quality consciousness, system standard, professional quality, innovation ability, etc., which provides endless spiritual power for industrial development. This will play a positive role in improving the ideological level, political consciousness, moral quality, cultural accomplishment and comprehensive quality of the cultivating objects in higher vocational colleges. The Ministry of Education put forward that "integrating industrial culture into vocational schools, making industrial culture into education, industrial culture into campus and enterprise culture into classroom", which shows the significance of inheriting innovative industrial culture in vocational colleges (Liu, 2012).

Own Demands of the Internal Development of Engineering Higher Vocational Colleges

The "National Vocational Education Reform Implementation Plan" puts forward that "vocational education and general education are two different types of education and have the same important status." Clearly promote the high-quality development of higher vocational education, start the implementation of high-level higher vocational schools and major construction plans with Chinese characteristics, and build a number of higher vocational schools and key majors (groups) that lead reform, support development, Chinese characteristics and world level (Zhang, Wang & Yao, 2020). With the introduction of the "Double High Plan", the words "industry", "innovation" and "technology" frequently appear in the policy texts, which put forward higher requirements for the high-quality development of higher vocational colleges. In 2019, among the 197 high-level school construction units listed by the Ministry of Education and the Ministry of Finance, "cultural construction" is a must for construction. Industrial culture plays an irreplaceable role in the integration of production and education and school-enterprise cooperation. Incorporating industrial culture into the cultural construction of higher vocational colleges is undoubtedly an important way to promote the integration of production and education in higher vocational colleges and form a joint force from inside to outside to achieve connotation enhancement.

The Key to Achieve "Human Modernization" for Students in Higher Vocational Colleges of Engineering

In the new era, as the builders and the successors of socialism with Chinese characteristics, students in higher vocational colleges are not only powerful builders of modern industrialization, but also inheritors and innovators of industrial culture, who play an irreplaceable role in promoting China's modern industrialization and advanced industrial culture. As the main position to train the new force of modern industrialization, higher vocational education needs to meet the new requirements of industrialization evolution for vocational education, and train high-quality technical and technical personnel with the spirit of the times and vocational skills. Only studying and practising skills through specialized courses is not enough, it is necessary to infiltrate into the spiritual power of industrial culture, enhance the cognitive, practical ability of modern industrial culture, enhance professional quality and industrial cultural quality, thus realizing human

Vol.1 No.10 2020
https://doi.org/10.37420/j.cer.2020.097

modernization.

The Deconstruction of the Current Situation: The Actual Situation of Industrial Culture Inheritance and innovation in Engineering Higher Vocational Colleges

Imperfect Mechanism

There is a lack of effective mechanism for the existence of non-uniformity and imbalance in industrial culture between schools and enterprises. The behavior of enterprises driving schools and enterprises cooperation mostly lies in solving the urgently needed human resource gap, and it is naturally unconscious for the long-term cultural inheritance and innovation. Higher vocational colleges pay more attention to connotation construction, focus on improving teaching quality and ignore the importance of industrial culture. Teachers pay attention to the improvement of their professional quality, students pay attention to the mastery of knowledge and skills, all of whom lack subjective initiative in the improvement of industrial cultural quality. Enterprises and schools can not reach the level of deep cooperation, and personnel training subjects cannot be freely transformed. The "dual subjects" of schools and enterprises education and the "dual identities" of student apprentices become empty talk.

Lack of Channels

Due to the lack of attention to the inheritance and innovation of industrial culture, there are few channels for the inheritance and innovation of industrial culture. Mainly manifested in the following aspects: First, the core spirit of industrial culture is not organically integrated into the spiritual connotation system of campus culture, forming two skins. Second, the industrial system culture is not organically integrated into the college system, which affects the modern system construction. Third, the industrial culture is not dominant in the campus environment, which can't play the infiltration role of environmental education. Fourth, the industrial cultural activities are not organically integrated into the campus cultural activities system, and students lack the opportunity to feel and participate.

Shortage of Research

Academician You Zheng and Professor Huang Simin of Tsinghua University pointed out in "Opportunities and Challenges of Industrial Culture Research in the New Era" that although the development of industrial culture has been at least 100 years old, the corresponding knowledge system and theoretical system of industrial culture research has not been established, and its related research is scattered in management, industrial engineering, economics, history, psychology, sociology or anthropology. In China, the concept of industrial culture has only been put forward and paid attention to in recent years (You & Huang, 2018). The fragmentation and interdisciplinary characteristics of industrial culture research need to break through the discipline boundaries and integrate relevant knowledge, which challenges the researchers' own knowledge structure. As for the participants, they need to participate with the industrial and cultural stakeholders, such as government, industry, enterprises, universities and other personnel. In addition, in process of industry culture

attaching to industry, the speed, strength and mode of industrial development also directly affect the depth and breadth of its research, thus the related research of engineering higher vocational colleges mostly stays in the research of regional industrial economy, school history and professional culture, while there is little holistic, overall and systematic research.

Channel Selection: The Practical Exploration of the Inheritance and Innovation of Industrial Culture in Chengdu Institute Vocational and Technology College

As an engineering vocational college, Chengdu Industrial Vocational and Technical College is based on the engineering foundation, adheres to the problem orientation, relies on the advantages of industrial enterprises and regional resources, takes "vigorously promoting industrial culture and actively cultivating craftsmen in big countries" as its own responsibility, and integrates industrial culture into the construction and development of the college with intellectuals and ethics, forming a distinctive campus culture featuring industrial culture.

Establish a New Mechanism

In order to be in line with the requirements of industrial culture inheritance and innovation, the College has established and improved the operation linkage mechanism, guidance incentive mechanism and evaluation mechanism. The first is to establish an operation guarantee mechanism. A three-level linkage mechanism of "school-department-hospital" has been established, in which the school makes overall plans, the propaganda and United Front Work Department of the Party Committee is responsible for grasping the active cooperation of the head office and various departments, and the operation mechanism of "School leading, expert guiding, the bank enterprise participating, everybody practicing" and the four-in-one operation mode of "school+fam ily+enterprise+community" have been constructed. Scientifically formulate five-year work plans and annual plans, hold regular special work conferences, carry out special investigations inside and outside the school, timely manage and control, check the implementation progress, and fully support special funds, so as to continuously push forward the inheritance and innovation of industrial culture.

The second is to establish incentive-oriented mechanism. Establish internal training and external introduction mechanism, strengthen the education and training of teachers related to industrial culture, organize teachers to study, investigate and feel the corporate culture deeply, improve their own industrial culture literacy, and infiltrate the elements of industrial culture education in education and teaching. Employ university professors, industry masters and enterprise experts as industrial culture instructors for students, open up the boundaries between schools, colleges and majors, integrate high-quality teachers inside and outside schools, and work together to inherit and innovate industrial culture. Carry out activities such as "one hospital, one product", "workers and craftsmen" (students), "workers and craftsmen" (teachers), and encourage all departments and individuals to strive for excellence.

The third is to establish the assessment mechanism. Incorporate industrial culture inheritance and innovation into the performance target management of the college, formulate detailed rules for performance target

Vol.1 No.10 2020
https://doi.org/10.37420/j.cer.2020.097

assessment of industrial culture inheritance and innovation, clarify the grading evaluation index system, evaluation methods and incentive methods, conduct regular supervision and year-end assessment, and incorporate achievements into departmental evaluation. Put the innovation of industrial culture inheritance into the overall evaluation system of college running, and accept the third-party evaluation, which promotes the continuous improvement of the work. Innovating the teaching evaluation mechanism and industrial cultural activity evaluation mechanism, increasing the assessment of industrial cultural literacy indicators, combining qualitative assessment and quantitative assessment, static assessment and dynamic assessment, individual assessment and comprehensive assessment, so as to objectively, scientifically, comprehensively and quantitatively evaluate the industrial cultural literacy and work effect of teachers and students (Jing, 2020).

Expand New Channels

Constructing the concept system of campus culture. Chengdu Industrial Vocational and Technical College adheres to the profound engineering background, constantly condenses the campus cultural connotation with industrial culture as the core, and builds a spiritual culture of "respecting the industry, striving for self-improvement, being brave in taking responsibility, and having lofty aspirations", an institutional culture of "democracy, science, enterprising and harmony", a behavioral culture of "advocating innovation, dedication, loving posts, morality and art, and teaching at the same time", and "greening, beautifying, purifying and brightening"

Constructing modern college system. Closely integrate industrial system culture with modern governance, invite industry and enterprise experts and famous teachers to actively participate, scientifically formulate the Constitution of Chengdu Industrial Vocational and Technical College, and establish a modern university governance pattern of "Party Committee Leadership, Principal Responsibility, Professors Studying, Democratic Management and Social Participation". With the "Articles of Association" as the core and the "five transformations" as the focus (i.e., systematization of institutional space, diversification of institutional systems, multipolarization of institutional levels, full participation of institutional participation and networking of institutional relations), more than 300 systems covering 10 fields such as teaching management, academic research and logistics services have been introduced, and a modern college system with complete system, scientific standardization and effective operation has been initially established.

Create an environmental system of cultural education. On the basis of the elements of the industrial culture era, the college implements the upgrading project of campus environment construction, creates cultural landscapes such as "the road to completion", and constructs and improves the campus space environment with industrial culture color. Build "three halls, one district and one area", and create an industrial cultural landscape belt with the theme of "condensing industrial time and casting modern civilization", an industrial cultural museum with "world industrial development history, Chinese industrial development history and Sichuan industrial development history" as its core, an industrial library with "automation, digitalization and networking" as its guarantee, and an "industrial civilization experience zone" with "experiencing real professional practice and feeling the charm of industrial culture" as its content Formulate the unified logo system and application products of the college, and build the unique industrial culture brand image of the college.

Constructing the system of industrial cultural activities. Focusing on the goal of cultivating "great country craftsmen", we will actively promote the inheritance and innovation of industrial culture and create a series of activity brands of "ingenuity cultivation". Promote industrial culture into "activities" and create a series of activity brands such as "industrial culture festival", "ingenuity", "artisan ingenuity" and "ingenuity cultivation"; Promote industrial culture into the "competition", hold cultural skills competition festivals every year, and undertake various skills competitions and vocational education activities weeks; Promote industrial culture into the "campus", set up open days for citizens (parents) and industrial cultural bases, carry out in-depth research activities, hold industry enterprise expert lectures, and conduct special reports in primary and secondary schools; Promote industrial culture into "training", serve regional economic development, and conduct cultural propaganda for key groups such as industrial workers, re-employed workers, retired military personnel, and rural migrant labor; Promote industrial culture into "poverty alleviation", focus on poverty alleviation with technical skills, sow the seeds of industrial civilization, and cultivate practical technical talents; Promote industrial culture into the "countryside", carry out the "three rural areas" activities of college students extensively, and promote industrial culture.

Carry out New Research

The accurate interpretation and scientific grasp of the connotation of industrial culture are the basis and foundation for the inheritance and innovation of industrial culture. Therefore, the college should start the grasp from the foundation, theory and research.

The first is to build a high-end research platform. Promoting the inheritance and innovation of industrial culture with platform. The establishment of Sichuan Industrial Culture Popularization Base, Sichuan Popular Science Education Base, Sichuan Postdoctoral Innovation Practice Base, etc., together with the Industrial Culture Development Center of the Ministry of Industry and Information Technology, have filled the gap in the research field of higher vocational colleges and built a high-end scientific research platform for industrial culture research.

The second is to set up a high-level research team. Professional leaders are the main members, and researchers from government, business and schools, such as the Ministry of Industry and Information Technology, Central China Normal University, Chengdu Industrial Culture Development Promotion Association and well-known enterprises, are recruited to set up a special research team, relying on the regional economic development trend and based on the actual situation of the college to carry out research on industrial material culture, industrial system culture and industrial spiritual culture.

Thirdly, establish the characteristic industrial culture curriculum system. Based on the platform of school-enterprise cooperation, the college integrates industrial culture into the whole process of education and teaching, offering compulsory and elective courses such as Craftsman Spirit Reader, Craftsman Spirit in Literature, Film and Television Works, Craftsman Spirit and Music Appreciation, supporting the development of loose-leaf and experiential new teaching materials that integrate craftsman spirit, deepening industrial culture into teaching materials, classrooms and minds, forming a distinctive industrial culture curriculum system and improving students' industrial culture literacy.

Vol.1 No.10 2020
https://doi.org/10.37420/j.cer.2020.097

Several Problems that need to be Grasped in the Inheritance and Innovation of Industrial Culture in Higher Vocational Colleges of Engineering

Taking the Socialist Core Values as the Main Line

As an important part of Chinese national spirit, socialist core values contain profound historical background. General Secretary Xi Jinping emphasized many times that the socialist core values are the basic project of consolidating the soul and strengthening the foundation, and it is a fundamental task to cultivate and carry forward the socialist core values (Xie, 2017). As the main dissemination position of socialist core values, in the process of integrating its cultural construction into industrial culture, higher vocational colleges must follow the main line of socialist core values, persistently cultivate and carry forward socialist core values, and guide teachers and students to be firm believers, active communicators and model practitioners of socialist core values (Wang, 2020).

Taking Cultural Inheritance, Innovation and Dissemination as the Mission

Universities not only shoulder the heavy responsibility of transmitting knowledge, but also bear the unshirkable responsibility for the inheritance, innovation and dissemination of culture. The prosperity and development of university culture is of great importance to the modernization of higher education. In the first place, Chinese culture has a long history which contains rich philosophies, and the cultural construction of higher vocational colleges should fully tap the part that conforms to the development spirit of the times. Secondly, nowadays, the cultural construction of vocational colleges in China is weak and lacks systematic planning and characteristics. Therefore, only by taking innovation as the continuous driving force of the cultural construction of vocational colleges can the cultural connotation of vocational colleges be enhanced. What’s more, in a society with high-speed information development, cultural exchange and dissemination seem to be within reach, but the current situation at home and abroad is complex and changeable, and the socialist core values are impacted by the wave of marketization. As builders and successors of socialist cause, higher vocational students' will is also challenged by pluralistic social thoughts (Xie, 2017). Under the new situation, it is an urgent task for higher vocational colleges to strengthen cultural communication from the perspective of ethnic benefits and national interests.

Taking Strengthen Moral Education and Cultivate People as the Value

A country without virtue does not prosper, a person without virtue does not success. General Secretary Xi Jinping emphasized at the National Conference on Ideological and Political Work in Colleges and Universities that it is necessary to take the cultivation of moral integrity as the central link, carry out ideological and political work throughout the whole process of education and teaching, realize the whole process of educating people and educating people in all directions, and strive to create a new situation in the development of higher education in China (Xiao, 2017). Campus culture, as an invisible educational force, plays a subtle role in changing the ideological character of teachers and students. As an important part of China's higher education, higher vocational education's cultural construction must take moral education as the foundation

of educating people, take the value of the times as the navigation in the process of running a school, strive to build good cultural conditions, give full play to the role of culture in moral education, and ensure that every higher vocational student can train qualified builders and successors of the socialist cause.

Conclusion

Beyond all doubt, using industrial culture to nourish the campus culture of higher vocational colleges plays an important role in forging the professional character and spirit of higher vocational students. Currently, under the background of enrollment expansion policy, the way to strengthen the inheritance and innovation of industrial culture through internal cultural construction in higher vocational colleges urgently needs every higher vocational college to solve the problem in practice.

Funding

This paper is financed by Sichuan Educational Science and Research Institute 2020 Sichuan Educational Research Funding Project "Research on the Inheritance and Innovation of Craftsmanship Spirit in Vocational Colleges"; Chengdu Key Research Base of Philosophy and Social Sciences-Chengdu Craftsman Culture Research Center 2020 Project "Research on the Historical Evolution and Contemporary Value of Craftsmanship Spirit in Vocational Colleges" [No. 2020ZC11].

References

Liu, L. (2012). Improving the cultural soft power of higher vocational colleges. *Vocational Education Forum*, (16), 23-25.

Zhang, Y. X., Wang, Y. Q., & Yao, J. L. (2020). Practice and exploration of the construction of "double-qualified" teachers in health vocational education. *Health Vocational Education*, 38(04).14-15.

You, Z., & Huang, S. M. (2018). Opportunities and challenges of industrial culture research in the new era. *Smart China*, (3), 60-61.

Jing, Y. (2020). Innovation of the Ideological and Political Guidance Mechanism in Colleges and Universities from the Perspective of Experimental Papers. *Journal of Shanxi Radio & TV University*, 25(02), 2-7.

Xie, S. C. (2017). The basic requirements of cultural construction in colleges and universities in the new era. *School Party Building and Ideological Education*, (23), 4-9.

Wang, Z. R. (2020). General Secretary Xi Jinping's Marxist Standpoint and Method of Education Important Statement. *Social Sciences in Chinese Universities*, (05), 4-15, 156.

Xiao, W. W. (2017). Research on the Collaborative Mechanism of Ideological and Political Work in Colleges and Universities. PhD. Dissertation. Wuhan: Central China Normal University.