

A Study on the Training Path of Craftsman Talents in Higher Vocational Colleges Against the Background of the Transformation of Old and New Kinetic Energy

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ABSTRACT

Artisan talents are the backbone force to promote China's economic development into the era of quality. Vocational education is the main channel and important position to cultivate craftsman talents, and it shoulders the historical mission of cultivating new craftsman talents. Based on the revision to the talent training scheme and implementation of teaching process, this paper focuses on building up a new talent training system to achieve the objectives of craftsman talents training for the new era through the professional quality cultivation under the guidance of craftsman spirits, skills cultivation under the guidance of competition, and craftsman talent cultivation under the guidance of innovation following the "three fusion, five linkage and multi-domain inspiration" overall framework.

Keywords: Conversion of old and new kinetic energy, Craftsman talent, Innovation and entrepreneurship, Vocational colleges.

1. INTRODUCTION

On April 12, 2021, at the National Conference on Vocational Education, Xi Jinping made important instructions on vocational education, emphasizing the need to accelerate the construction of a modern education system and train more high-quality technical and skilled personnel, skilled craftsmen and artisans in major countries. A large number of skilled craftsmen are needed to accelerate the development of intelligent, green and high-end manufacturing. New technologies, new products and new processes are emerging in the

context of the shift from old to new drivers of growth, posing new requirements for the training of artisans. Vocational education is the main channel and important position of training artisan talents, and shoulders the historical mission of training new artisan talents.

*Funds: "Three Integration, Five Linkage and Multi-domain Stimulation" Artisan Talent Training under the Background of the Transformation of Old and New Kinetic Forces (Project No. : 2020-SHGH-21); Educational Reform Project of Shandong Provincial Department of Education: Program design and implementation of "Standard Embedding, Post Docking, Capability-based" Normal Skills Competition in Vocational Colleges (Project No. : 201924); Educational Science Planning Project of Shandong Province: Research on the Promotion of Professional Course Teaching Reform by Vocational Skills Competition (Project No. : YG15021).

2. THE SIGNIFICANCE OF CRAFTSMAN TALENT CULTIVATION IN THE CONTEXT OF THE TRANSITION BETWEEN OLD AND NEW DRIVERS OF GROWTH

2.1 It Is Beneficial to Solve the Problems of "Weak Professional Spirit" and "Lack of Professional Dedication" of the Employees, and Realize the Cultivation of Craftsman Spirit of Vocational Education Students

At present, there are the following problems in the professional quality of employment students and employees in China: desalination of professional concept, lack of dedication, and lack of integrity principle, which have formed obstacles to the growth and success of vocational students. The core connotation of the craftsman spirit is professional dedication, which is devoted to the profession with a whole-hearted attitude of awe [1]. Therefore, it is an effective way to improve students' vocational quality education by cultivating craftsman spirit and correcting many problems in vocational quality training, which is in line with the current educational and vocational status quo.

2.2 It Is Conducive to Solving the Problem of "Not Exquisite Technical Skills" of Employees and Boosting the Sophisticated Development of Local Industries

The scale of Chinese manufacturing industry is second to none, and it has become a veritable world factory. The scale of automobile, electric appliance manufacturing, textile and shoe making industries ranks first in the world, but the degree of refinement of products in these industries is not high, large but not strong, which is directly related to the lack of technical and skilled personnel [2]. The core ability of craftsman talent cultivation is exquisite technical skills. Xi Jinping has made important instructions on the training of skilled personnel in China, stressing that the majority of young people should be encouraged to take the road of becoming talented and serving the country with skills. Therefore, vocational colleges attach great importance to the cultivation of students' exquisite technical skills. Cultivating artisan talents is an effective way to "develop a manufacturing country

into a manufacturing power" and boost the advanced and sophisticated development of local industries.

2.3 It Will Help Solve the Problem of "Lack of Innovation Ability of Skilled Personnel" and Build up the Impetus for Local Governments to Replace Old Drivers with New Ones

Binzhou city craftsmen talent creativity has many problems: there are Binzhou Medical University, Binzhou University, Binzhou Polytechnic, and Binzhou Technician College. Secondary vocational schools have good science and technology resources, but lack innovation ability and skilled personnel enterprise ranking compared with other cities in terms of innovation, creativity and gap. The work report of Binzhou Municipal Government in 2020 pointed out that: to fully promote the transformation of old and new driving forces, the pace of transformation and upgrading is firm. The shift from old drivers of growth to new ones and the transformation and upgrading of industries have put new requirements on the innovative capacity of artisans. Therefore, upgrading and training traditional craftsman talents to innovative craftsman talents is an effective way to promote the transformation of old and new driving forces in local areas.

3. EXPLORING THE TRAINING PATH OF CRAFTSMAN TALENTS IN VOCATIONAL COLLEGES AGAINST THE BACKGROUND OF THE TRANSFORMATION OF OLD AND NEW DRIVING FORCES

3.1 A New System of Cultivating Students' Professional Quality Is Constructed Through the "Three-level Integration of Craftsman Spirit"

Professional quality refers to the internal norms and requirements of the occupation, and is the comprehensive quality shown in the process of occupation. It includes two important factors: professional dedication, cooperative attitude and professional norms that human beings need to abide by in social activities [3]. Craftsman spirit is a kind of work attitude of striving for perfection and dedicated professional spirit. Its core connotation is professional dedication and professional awe [4]. By integrating craftsman spirit into curriculum

teaching, special topic education and campus culture, a three-layer integration of craftsman spirit can be constructed to cultivate students' professional quality.

First, it is to integrate craftsman spirits into curriculum teaching through curriculum ideological instruction design. Outstanding heirs of craftsmanship such as power craftsmen of Qilu chief technician, national technical experts, top 10 chief technicians, chief technicians with outstanding contributions in provinces and cities, award-winning students in the national vocational skills competition, etc. were classified and integrated into the professional career planning courses, ideological instruction courses, employment guidance courses and specialized courses to optimize the teaching contents, teaching process, and talent training program so as to improve the quality of talent training.

Second, through the introduction of artisan talents into the campus, the craftsman spirit is integrated into the entrance education, various reporting activities education, graduation education, graduation design and other thematic education. Colleges will become the frontier of carrying forward the national spirit, the innovation spirit and the spirit of craftsman education by actively connecting the local artisans talent resources, promoting "skill master studio" platform construction, relying on the "skill master studio" in school education, graduate education, seminars for craftsmen of graduation design talents, and seminars for model workers local craftsmen.

The third is to integrate the craftsman spirit into the campus cultural environment through enterprise culture and craftsman culture. The enterprise culture and craftsman culture should be introduced into the campus at different levels, and the campus culture construction should be carried out from the professional level and the school level to integrate production and education. At present, many enterprises are involved in the talent training of vocational colleges and universities. Through in-depth exploration of craftsman culture, the craftsman spirit is integrated into the campus cultural environment, so as to form a new model of craftsman culture cultivation with the integration of production and education.

3.2 Forming an Effective Mode of Cultivating Students' Exquisite Skills Through the "5-level Linkage of Skills Competition"

Skills competition is an important system design and innovation of the Ministry of Education to improve the quality of technical and technical personnel training, and an effective means to improve the quality of technical and technical personnel training. Skilled competition plays an important role in promoting the reform of vocational education and teaching, improving the training quality of skilled talents and serving the all-round development of people. Therefore, this paper studies the promotion of classroom skills competition — college-level skills competition — city-level skills competition — provincial-level skills competition — national skills competition. Through the "five-level linkage of skill competition", the pyramid craftsman talent cultivation mode is formed.

First, it actively participates in national and provincial competitions of various skill competitions at all levels and implements the "Talent Training Plan for Top-notch Artisans". The vocational skills competition consists of multi-level and multi-category competitions hosted by education authorities, human resources and social authorities, and trade associations. The competition is organized comprehensively, studied deeply, and actively participated in all kinds of competitions. The top design of "Top-notch Craftsman Talent Cultivation Plan" under the guidance of incentive mechanism is established through the integration of skills competition results in the selection of Top Ten Top 100 College Students, Top 100 Study Pacesetters, Top Ten Top 100 Student Cadres, Excellent Student Cadres, Excellent Students, National Scholarship and National Encouragement Scholarship. The training base will be fully opened, and flexible platforms such as science and technology associations and the second classroom will be used for in-school skills training. Off-campus skills training were carried out through cross-school skills exchange and learning, school-enterprise skills exchange and other co-education platforms. Through top-level design — in-school skill training — off-campus skill training — skill competition, the "Top-notch Craftsman Talent Training Plan" is implemented to achieve the training of top-notch craftsman talents.

Second, the "local craftsmen talent training plan" is carried out through the construction of city

competitions and college competitions. Higher vocational education is a form of higher education facing regional economy, industry and the public. Vocational education is shouldering the region economy development the important task of personnel training, skills contest as an important carrier and means of vocational education personnel training, at the municipal level skills contest, the court skills contest games stick to local industry form on set, the local enterprise product variety, stick to local industry and enterprise standards, the implementation of "local artisans talent cultivation plan". Binzhou city has identified the "5+5" top ten industries of the city, and put forward the strategic plan for the development of the top ten enterprises. Top 10 industries of "5+5" include high-end aluminum industry, high-end chemical industry, ecological textile industry, grain processing industry, animal husbandry and aquatic products industry, high-end equipment manufacturing industry, new generation information technology industry, new energy and new materials industry, medical care and health industry, and modern service industry. Therefore, the competition items of municipal competition and college competition should highlight the connection with the top 10 industries of "5+5", so as to realize the coordinated development of local craftsmen talents and local economy.

Third, the implementation of the "full craftsman talent training plan will promote the implementation of classroom skills competition. By employing national and provincial competition standards into the whole teaching process, all-round reform is carried out from five aspects of "curriculum system, curriculum standard, teaching content, teaching process and examination and evaluation". The curriculum system is reformed by adding the module of skill competition items in the curriculum system; the curriculum standard is reformed by embedding the competition standard in the curriculum standard. By embedding the content of fragmented competition in the teaching content, the teaching content is reformed. Reform the teaching process by implementing classroom competition in the teaching process; by integrating the competition evaluation into the evaluation, the evaluation system is reformed. That is to build a new talent training system through the "five-layer coverage of the competition standard", realize the classroom-based competition, expand the benefit range of students from the skills competition, implement the "all-staff craftsman talent training

plan", and realize the craftsman talent training of the whole school.

3.3 A New Path for Upgrading and Training Artisans' Talents Will Be Established Through "Multi-domain Stimulation of Innovation and Entrepreneurship Capability"

The development of the manufacturing industry needs to adapt to the shift from old drivers of growth to new ones and achieve innovative and high-quality development [5][6]. Talent training also needs to be upgraded from traditional craftsmen to innovative craftsmen. Vocational education is an important position to cultivate and bring up the new force of "mass entrepreneurship and innovation". Through the "System Standard for the Whole Process of Innovation and Entrepreneurship Integration into Talents Training", "Implementation Standard for Innovation and Entrepreneurship Integration into Classroom" and "Guarantee Mechanism for Innovation and Entrepreneurship Work", the College has established the "Innovation and Entrepreneurship Ability Shaping and Improvement Project" for craftsmen talents, forming a new path for the upgrading and training of craftsmen talents.

First, it is to actively participate in various national and provincial competitions to implement "the top craftsman talent training plan". Adhering to the concept of integrating innovation and entrepreneurship into the whole process of talent training, the university has established standard module courses such as Training of Innovative Thinking, Entrepreneurial Life, Theory and Practice of Network Entrepreneurship, and Practical Practice of Entrepreneurial Management.

It's necessary to construct compulsory courses of specialized innovation and deep integration, and build competitive optional modules of integrated innovation and entrepreneurship education. Through the construction of the teaching system of modular courses, specialized and in-depth integration courses and competitive elective courses, innovation and entrepreneurship education covers all students and runs through the whole process of talent cultivation.

Second, the establishment of innovation and entrepreneurship into the classroom implementation standards improves the effectiveness of the classroom. Standard module courses, such as Creative Thinking Training, Entrepreneurial Life,

Network Entrepreneurship Theory and Practice, Entrepreneurial Management Practice, etc., are implemented according to the uniform teaching standards of the whole school, which are taught by the teaching team of SYB Entrepreneurship Trainers. Implementation standards of compulsory courses for in-depth integration of specialized innovation and entrepreneurship: at least one specialized course for each major should be deeply integrated into innovation and entrepreneurship education; at least two innovation and entrepreneurship projects should be designed for specialized in-depth integration courses; at least one specialized innovation and entrepreneurship team should be established after the teaching of specialized in-depth integration courses. Executive standards of deep-integrated compulsory courses: at least one innovation course is involved in each major; at least two innovation projects are designed for the professional courses; a team for professional innovation should be formed after the end of the course teaching. The standard for competition optional module integrating innovation and entrepreneurship education: carry out project-oriented teaching in accordance with the regulations of college students' science and technology innovation competition, Internet + innovation and entrepreneurship competition and other competitions.

Third, strengthen institutional support and establish a guarantee mechanism for innovation and entrepreneurship. In order to comprehensively promote the innovation and entrepreneurship education of the college and construct a new system of innovation and entrepreneurship education, Binzhou Vocational College has established a leading group for innovation and entrepreneurship education. Leading group members performing their own duties should carry out the innovation spirit of entrepreneurship education documents and requirements issued by national and provincial education departments, study and deploy the innovation entrepreneurship education reform work, approval of school innovation entrepreneurship education system, guide the innovation entrepreneurship education course system and teaching staff construction, overall plan the schools' innovation entrepreneurship education resources, and evaluate the innovative entrepreneurship education achievements.

4. CONCLUSION

Through the "three-layer integration of craftsman spirit", craftsman spirit is integrated into the whole process of talent training, so as to create a spiritual engine for craftsman talent training in the new era. Through the "five-level linkage of skill competition", students' exquisite skills are cultivated, and the technical foundation of craftsman talent training in the new era is laid firmly. Through the "multi-domain stimulation of innovation and entrepreneurship ability", the innovation and entrepreneurship ability of students is cultivated, and the innovation channel of artisan talent training in the new era is opened up. The exploration of the above ways will train more skillful craftsmen and artisans for the country and make contributions to vocational education.

AUTHORS' CONTRIBUTIONS

Qian Lv was responsible for overall design, Hongbo Liu collected data, Guiqin Li wrote the manuscript, Youji Li and Hongmei Xie contributed to revising and editing.

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