

Research on the Cultivation Strategy of Higher Vocational Students' Professional Quality from the Perspective of the World Skills Competition

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Keywords: High-skilled talents, Professional Quality, Cultivate strategy.

Abstract: The World Skills Competition (WSC) is the largest, highest level and most influential professional skills competition so far. Its competition concept, technical standards, competition rules, workflow and competition organization reflect the professional quality requirements of high-skilled talents in the world's vocational field. At present, there are still some deficiencies in the vocational quality training of high-skilled talents in vocational colleges, such as the concept of vocational education, the supply of education and teaching, the evaluation mechanism and the cultivation of skill self-confidence culture. Vocational colleges must combine the characteristics of running a school, take the standard of the WSC, draw lessons from the evaluation criterion of the the WSC, and Summarize the results of the competition as the path, embed vocational quality education into the training program, integrate into the training process, implant vocational qualification promotion mechanism, build a multi-skill self-confidence culture cultivation system, and improve the quality of Professional quality training of high-skilled talents.

1. Introduction

The World Skills Competition (WSC) is the most influential professional skills competition in the world, known as "Skills Olympics" and "Skills Davos", which is held every two years. China's active bid for The World Skills Competition aims to further promote exchanges and mutual learning between China and other countries in the field of skills, and drive more Chinese teenagers to pay attention to, love and participate in skills activities. In 2021, China issued the Opinions on Promoting the High-quality Development of Modern Vocational Education, which put forward the goal of "speeding up the construction of modern vocational education system and building a skilled society. " Therefore, we should constantly enhance the adaptability of vocational education, draw lessons from the concept of The World Skills Competition, dock with the WorldSkills Occupational Standard (WSOS), optimize the curriculum system, teaching standards and training mode of skilled personnel in higher vocational education, and constantly improve the quality of vocational education. It has a very positive reference value to explore the promotion path of vocational students' professional quality cultivation.

2. Analysis of The World Skills Competition and the Professional Quality Requirements of High-skilled Talents

Founded in 1950, The World Skills Competition advocates the value concept of "Excellence, innovation, cooperation, fairness, justice, diversity and transparency (openness)", focusing on transportation and logistics, structural and construction technology, manufacturing engineering technology, information and communication technology, creative art and fashion, social and personal services, which reflect the six major areas of the global economy.^[1] The process and updating mechanism of developing the World Skills Occupational Standards (WSOS) system are established, and the Professional quality requirements of high-skilled talents in the world's vocational fields are reflected through competition concepts, technical standards, competition rules, workflow and competition organization.

2.1. The setting of events reflects the requirements of vocational behavior ability of striving for excellence and pursuing excellence

The World Skills Competition has gradually increased from more than 40 events in the first session to nearly 60 events at present. the principle of setting up The World Skills Competition can be summarized as "three most" (the latest, the highest and the most representative), reflecting the requirements of professional competence advocated by the World Skills Organization for excellence and excellence.^[2] First, the content of the competition project reflects the latest technical skills needed by the industry according to the technological changes in the world, the development trend of the industry and the employment needs of enterprises. For example, in the 45th World Championships, the future skills project represented by digital skills and advanced intelligent manufacturing technology was added. Second, the process and technical standards of the competition project reflect the highest international level of knowledge, understanding and specific skills required for product quality and skill operation accuracy in the professional field.^[3] Thirdly, the competition items reflect the characteristics of "global occupation and work role", pay attention to the balanced distribution in the secondary and tertiary industries, and reflect the most representative vocational skills needs. It has not only "high, fine and advanced" scientific and technological application skills, but also "general, specialized and special" life service skills, so as to comprehensively reflect the radiation scope and influence of vocational skills, as well as the pursuit of excellence in techniques and arts of modern vocational abilities.

2.2. The topic of the competition advocates the skill quality shaping of honesty, fairness, cooperation and innovation

The topic design of each event in The World Skills Competition contains the requirements for shaping professional quality, that is, taking honesty as the foundation, cooperation and innovation as the wings, to set sail for professional ideals. The first is the "three real " characteristics of the source of the contest topic, that is, through real occupation, real facilities and real tasks, the contestants can not only show their true level in knowledge understanding, skill mastery and working thinking,^[4] but also establish the professional spirit of combining learning with practice and loving their posts. Second, a fair and transparent pre-announcement mechanism for competition topics. The WSC test questions are a comprehensive task with a complete working process and structure. The Organizing Committee of the World Championship announced them half a year in advance to provide a fair and effective reference for the preparation, training and training organizations of the competition events in various countries. Third, the 30% change in the final test questions shows the importance of cooperation and innovation. There is a 30% change in the

specific content and requirements of the final competition, which requires the contestants to have strong on-the-spot performance and innovation, that is, the ability to effectively communicate and obtain information, the ability to comprehensively use existing knowledge and the ability to creatively solve problems. ^[5]

2.3. The evaluation criteria should establish the vocation ethics concept of accuracy, preciseness, quality and speed

Around the core values of The World Skills Competition(WSC), the organization has formulated a set of evaluation criteria that can represent the level of high-quality professional competence. Through the evaluation indicators and evaluation rules of high standards, the whole process and high reliability, it covers the content, process and value, and establishes the professional ethics concept of accuracy, preciseness, quality and speed. First, the standard pursued by The World Skills Competition is "fast and good. " The evaluation standard not only emphasizes the fast speed of operation and the high quality of products, but also pays more attention to the accuracy and quality of each step in the process of making products. Second, the normative evaluation of professional behavior runs through the whole process of the competition. The World Skills Competition reflects the professional validity through the evaluation of the whole process of the competition. It requires the players to abide by the requirements of professional ethics and codes of conduct before, during and after the competition, and to deduct points according to the rules, or to withdraw from the competition^[6]. Third, the competition evaluation process strives for high reliability. The Organizing Committee of the WSC has set up professional precision testing instruments to ensure fairness and fairness in size scale, quality and error processing. In order to avoid the judgment error caused by human factors, three referees are arranged to test and judge at the competition site. Once there are differences, the relevant personnel will be arranged to conduct a second inspection to ensure the high credibility of the competition results.^[7]

2.4. The concept of the WSC promotes the cultivation of professional qualities with glorious skills and cultural self-confidence

The core values of "honesty, transparency, fairness, cooperation and innovation" advocated by the World Skills Organization are implemented through the organization, technology, humanities and environment of the competition, presenting the characteristics of pluralism, openness and inclusiveness, and creating a cultural atmosphere of respecting skills consciously and advocating skills. One is to promote "using the power of skills to improve the world. " Through the holding of The World Skills Competition, while advocating "learning new skills, changing your life", it promotes the evolution of vocational education from training skills to ability development, and promotes the worldwide recognition of the importance of skills in promoting economic growth. Second, the whole process of opening up encourages skills and self-confidence. The whole process of the World Championship is open, allowing peers to observe and tourists to visit. During the four-day competition, the athletes completed high-intensity and high-difficulty comprehensive tasks, demonstrating their superb technical ability and excellent professional accomplishment, promoting professional identity and stimulating skill self-confidence. The three is to enhance cultural confidence through skills exchange. The World Skills Competition integrates social values into the rules of competition and the application of technology, which embodies the humanistic view of technology.^[8] Competitors from different countries exchange and learn from each other through skills competition, so as to enhance their understanding and tolerance of different cultures and enhance their cultural self-confidence.

3. Analysis of the Problems Existing in the Cultivation of Vocational Quality of Higher Vocational Student

Vocational education is oriented to promote employment and meet the needs of industrial development, aiming at cultivating a group of high-quality skilled talents with integrity, professionalism, sense of responsibility and awareness of discipline and law-abiding. In recent years, with the trend of world economic globalization and the rapid development of high and new technologies centered on the information technology revolution, the emergence of new technologies, new models and new formats has triggered changes in the social industrial structure and the demand for high-skilled talents. There are still some deficiencies in the professional quality training of high-skilled talents in higher vocational colleges.

3.1. There is deviation in the concept of professional education

The goal of vocational education is to train students to have the ability to engage in relevant professional skills and sustainable development, but there is a certain degree of concept deviation in the implementation of professional education in higher vocational colleges. First, there is a "skill first" thinking, because the higher vocational education system is relatively short(three years), the quality of students is relatively weak and other factors, in the long-term professional education mainly highlights the imparting and training of knowledge and skills. Secondly, there is a task-driven inertial thinking based on quantifiable indicators of evaluation, which is mainly due to the advantages of strong directivity and easy quantitative evaluation of knowledge and skills, while quality education has the dilemma that short-term results are difficult to show and quantify. Thirdly, there is a fragmented thinking of curriculum modularization, which makes it difficult to operate, integrate and evaluate quality education embedded in professional education in curriculum setting and teaching, and lacks systematic and holistic implementation strategies.

3.2. The supply of educational subjects is slightly insufficient

Higher vocational education is oriented to promote employment and adapt to the needs of industrial development, so the supply-side reform of students' professional quality training in higher vocational colleges must be based on two dimensions, one is to match the growth needs of students, the other is to match the needs of industry talents. The talent training mode in higher vocational colleges has a relatively mature and standardized formula. The contents of professional quality, such as professional ideal, professional belief, professional ability, professional ethics, professional norms and innovative quality, must be embodied in different curriculum systems and practical training links, and the main body, mode and path of cultivation are more diverse and discrete. First, there is a grade difference between the personality development and the expected growth needs of the "post-00" college students. Second, the school's existing educational resources and teaching capabilities are also difficult to meet the needs of industry enterprises for professional quality of talents. Thirdly, although industry enterprises are the main body of education participating in personnel training in school-enterprise cooperation, they usually treat college students'practice in the way of substitute training, emphasizing efficiency over education, and lack of corresponding school-enterprise coordination mechanism in terms of cohesion, complementarity and progressiveness of professional quality cultivation.

3.3. The systematicness of the evaluation mechanism is relatively lacking

The cultivation of professional accomplishment is a systematic project. At present, in the cultivation of students' professional quality in higher vocational colleges, firstly, the connotation of professional quality with the characteristics of various fields is extremely rich, and it is difficult to systematically sort out, integrate and modularize; secondly, there is the relative independence of the evaluation subject of professional quality and the non-professionalism of the implicit evaluation criteria of professional quality. There is a dilemma of "who will evaluate, what to evaluate and how to evaluate" because of the diversity of the team structure of teachers in higher vocational colleges, the key of recessive professional quality and the non-standard characteristics of cultivation methods. Thirdly, there is an open loop in the evaluation of professional accomplishment cultivation, which is mainly due to the long-term and sustainable characteristics of the cultivation of personal professional accomplishment, while the cultivation of professional accomplishment during the college period has the characteristics of content limitations and phased effectiveness. At the same time, the connotation and extension of professional accomplishment in the new era, as well as the plasticity of college students' growth, make it difficult to form a closed-loop mechanism of feedback on professional accomplishment cultivation.

3.4. The cultural atmosphere of skill confidence is not yet strong

In the labor practice of occupation and skill world, skill self-confidence is the spirit and ambition of skilled talents to cultivate their professional qualities of loving their posts, devoting themselves to their duties and devoting themselves to their duties. At present, there are still some phenomena in the construction of skill self-confidence culture, such as the lag of concept change and the uneven radiation of atmosphere creation. First, there is still a temperature difference in the cultivation of valuable skills. The state strongly advocates vocational education and promotes the formation of a social fashion of respecting skills. However, some groups are restricted by the traditional concept that "academic education is superior to vocational education", so that there is still a phenomenon that "knowledge education is out of touch with production and technical education" in society.^[9] Higher vocational students are lack of self-confidence in learning skills and knowledge, and lack of subjective motivation in cultivating skills and thinking. Secondly, there are problems of poor persistence and narrow radiation in the construction of skill culture atmosphere. At present, the social level, guided by skills competition, has increased investment in the construction of software and hardware of skills culture. However, in the construction of campus atmosphere of skill culture in vocational colleges, there are still some problems, such as "vigorous propaganda during the competition, plain activities after the competition," and "emphasizing the minority over the whole, emphasizing the competition over the popularization" in the cultivation of skill culture. Therefore, the measures to create a cultural atmosphere of advocating skills by promoting learning from point to area and through competition need to be strengthened.

4. Strategies to Improve the Professional Quality of Higher Vocational Students from the Perspective of the World Skills Competition

The World Skills Organization has established the technical standards of competition events, which take The World Skills Competition as the competitive platform and reflect the highest level of skills in the world. Through standard guidance and competition organization, it has promoted the formulation of technical standards for vocational skills competitions around the world, vocational and technical education and training of skilled personnel. Vocational colleges in China can learn from the evaluation criteria of the WSC, dock with the skill standards of leading enterprises in

relevant industries in China, implement professional literacy education embedded in training programs, integrate into the training process, and implant professional qualification promotion mechanism, so as to further improve the quality of professional literacy training for high-skilled talents.

4.1. Embed professional literacy education into talent training programs according to the standards of the WSC

The World Skills Occupational Standards (WSOS) for each competition established by the World Skills Organization "specify the highest international level of knowledge, understanding and specific skills required for the technology and occupation of the competition" and reflect a global understanding of the industry or job or position. "[10] Higher vocational colleges must actively meet the WSOS standards of the World Championship, unite industry associations, leading enterprises and competent government departments, establish a multi-coupling professional teaching steering committee between schools, enterprises and government, and set up professional teaching according to the requirements of professional settings and industrial needs, curriculum content and professional standards, teaching process and production process. In the formulation and demonstration of professional teaching standards, post standards, personnel training programs and curriculum standards, professional literacy education is scientifically embedded in the training system of high-skilled talents. Reasonably deconstruct the progressive relationship of knowledge, skills and quality required by skilled personnel in various industries, and form a curriculum system consisting of three modules, namely, basic literacy training, skill literacy training and comprehensive literacy improvement, according to the requirements of three-year educational system. Build a collaborative education platform for integrate the resources of enterprises with vocational schools and universities, so that professional and enterprise, education and technical backbone, students and posts in the cultivation of professional quality to carry out in-depth interaction, to achieve the scientific curriculum of high-skilled personnel training system and the precision of training objectives.

4.2. Draw lessons from the rules of the WSC and integrate professional literacy education into the whole process of professional skills training

The World Skills Competition follows the WSOS standard, comprehensively evaluates the general and professional abilities of the contestants, and the weight distribution is reflected by the test items and scoring criteria. It requires the contestants to complete authentic tasks similar to the real working world, and observes their understanding of knowledge, professional level of skills and expressive force of professional accomplishment. Therefore, higher vocational colleges should introduce enterprises, projects and enterprise tutors into the school, realize the situational teaching content, the concrete learning objectives, the deep combination of learning and doing, the visualization of task results and the real-time reflection of harvest, and gradually strengthen the effect of professional quality cultivation. First, higher vocational colleges should introduce leading enterprises in the corresponding industries to build training and practice bases. In strict accordance with the enterprise's management process, rules and regulations, job responsibilities and standardized operation, the introduction of corporate culture concept, to create a real workplace scene of the working atmosphere. As both students and apprentices, higher vocational students should establish professional consciousness, sense of ownership and sense of responsibility in a subtle way. The second is to introduce enterprise mentors into the school. Under the guidance of enterprise mentors, students can understand the spirit of rigorous and realistic craftsmen, strive for excellence and dare to challenge, and build up their professional spirit. Thirdly, introducing projects

into schools, establishing studios for enterprise operation management, product design and planning, information technology services, docking skills competitions, innovation and entrepreneurship competitions through projects such as project development, technical research and regional services, so as to enable students to perceive workplace business processes and strengthen knowledge in the real working environment and entrepreneurial atmosphere. Develop the sense of transposition thinking and teamwork in each operation link of business practice training, and imperceptibly improve professional accomplishment.

4.3. Using the experience of the WSC to establish a cascade mechanism of professional quality education

The purpose of the World Skills Organization is to "promote the improvement of the vocational skills of young people and trainers, and encourage young people to engage in the cause of skills." Since the formal World Skills Organization in 2010, China has participated in five consecutive sessions. At the 45th World Skills Competition held in Kazan, Russia, in 2019, the Chinese team participated in all the events and won gold, silver and bronze prizes in 45 events, accounting for 80% of the total number of events, reflecting China's strong comprehensive strength in professional skills competition. To sum up the experience of the WSC and apply it to all aspects of the training of skilled talents, higher vocational colleges must establish a full-coverage and full-cycle cascade training mechanism for the professional quality of high-skilled talents. The first is to build a professional quality evaluation system based on the talent training curriculum system. According to college students' ideological cognition, attitude performance, professional emotion and grade point, the progressive evaluation mechanism of "daily evaluation + semester promotion evaluation + school year promotion evaluation" is established by means of joint evaluation, feedback, guidance and tracking by teachers, enterprise tutors and class tutors, so as to form a benign interactive closed-loop mode of professional quality cultivation within the school system. The second is to strengthen the implementation of the "1 + X" certificate system. In view of the uncertainty of the upstream and downstream roles of the industrial chain and the ambiguity of job classification in the era of "Internet +," we should implement the multi-level layout of "X certificate" based on the industry and industry, integrate the professional quality system into the "X certificate" assessment module, and objectively, comprehensively and scientifically consider the knowledge, skills and literacy of higher vocational students. Thirdly, we should build a long-term mode of school-enterprise-government cooperation to train high-skilled talents, expand the coverage and statistical cycle of credit banks, carry out seamless integration of pre-service and post-service training, and continuously improve the professional quality of high-skilled talents. According to the operation characteristics of enterprises in corresponding industries, we should scientifically deconstruct the core knowledge, skills and literacy elements needed for enterprise business development from operation level, operation level, management level to decision-making level, and constantly cultivate and enhance the core competitiveness and sustainable development of high-skilled talents.

4.4. Seize the opportunity of hosting the competition and create a cultural atmosphere and cultivation system of skills and self-confidence

It is the starting point and fundamental point for China to actively bid for The World Skills Competition to strive to create a glorious labor, valuable skills and great fashion of the times in the whole society. Therefore, vocational colleges should actively prepare for the world championship as an opportunity to organically integrate the WSC skill culture, create a three-dimensional and pluralistic cultural atmosphere cultivation system of skill self-confidence, and improve the quality

of professional quality cultivation of high-skilled talents. Firstly, we should strengthen the leading function of competitions and deepen the promotion of professional skills and culture. Vocational colleges take all kinds of competitions at all levels as the guide, forming a tower-type cultivation mechanism of "promoting teaching and learning through competition," integrating skill culture with professional culture, coupling with curriculum content, and running skill self-confidence and cultural self-confidence through the whole process of professional teaching. The second is to deepen the integration of the resources of enterprises with vocational schools and universities and form a collaborative culture of skills and self-confidence to nurture the resultant effect. It is necessary to highlight the essential characteristics of skill culture education through professional training and production practice of real scenes, real posts and real tasks. At the same time, we should give full play to the role of industrial culture and corporate culture in the education of skill culture, help higher vocational students to establish the awareness of respecting skills, valuable skills and skills, and stimulate the pride of great skills. Thirdly, efforts should be made to enrich the carrier of campus skill culture cultivation by "integration, creation and expansion", so as to stimulate higher vocational students to enhance their skill self-confidence in active creation. Higher vocational colleges must integrate school motto, school spirit, teaching style and learning style with skill culture, and integrate them into specialties, associations and every student through materialized, active and ritualized carriers to form a community of skill culture cultivation. In the construction of campus skill culture, we should strengthen the guidance, infiltration and enlightenment of the process, stimulate the creative ability of higher vocational students, and establish skill aesthetics and values. At the same time, taking the opportunity of holding The World Skills Competition, we should strengthen the exchange and mutual learning of skills and cultures with other countries in the world, broaden the horizon of skills and cultures, and further enhance the cultural self-confidence and practice consciousness of higher vocational students in disseminating and inheriting excellent Chinese skills and cultures.

5. Concluding remarks

As the largest, highest level and most influential global vocational skills competition, The World Skills Competition plays a touchstone role in testing the quality of vocational education in the world. Vocational colleges must, according to their own school-running characteristics, take the initiative to meet the standards of the WSC, draw lessons from the rules of the WSC, transform the results of The World Skills Competition, promote the reform and innovation of the training mode of high-skilled talents, embed vocational literacy education into the training program, integrate it into the training process, implant it into the promotion mechanism of vocational qualifications, and promote it. Improve the quality of professional quality training of high-skilled talents, and train knowledge-based, skilled and innovative workers who meet the requirements of the new era. Provide sufficient support for China's social and economic development with vocational skilled talents, and promote China's fundamental transformation from a big country in vocational education to a powerful country in vocational education.

Thank

Thanks to the following fund projects: the phased achievement of 2021 Shanghai Higher Vocational College Ideological and political education special project "Research on the cultivation path of cultural and creative skilled talents' professional quality from the perspective of World Skills Competition" (No. 21szzx0054). Phased achievements of the innovation and entrepreneurship project of Shanghai Publishing and Printing College "Research on the cultivation

of professional quality of Higher Vocational media students based on innovation and entrepreneurship"

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