

Cultivation of Higher Vocational Students' Innovation and Pioneering Ability for the Craftsman's Spirit

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Abstract: The inheritance and innovation of craftsman's spirit play a positive role in promoting the stable and orderly development of the economy, and is of great practical significance to the development of socialism with Chinese characteristics. Starting with the connotation of craftsman's spirit and the relationship between craftsman's spirit and innovation and pioneering, this study comprehensively analyzes the importance of craftsman's spirit to the cultivation of innovation and pioneering of higher vocational students. Through the description of the current situation of the cultivation of college students' craftsman's spirit, this study discusses the cultivation of higher vocational students' innovation and pioneering ability from three aspects: "modern apprenticeship system" to sharpen innovation and pioneering skills, "multi-dimensional matrix" to create innovation and pioneering space, and "craftsman cultural circle" to ensure the sustainability of innovation and pioneering talents.

1. Introduction

At present, China is in a critical period of economic development and transformation. The inheritance and innovation of craftsman's spirit play a positive role in promoting the stable and orderly development of economy, and have important practical significance for the development of socialism with Chinese characteristics. Higher vocational students are not only one of the main forces made in China, but also the core pillar of enterprise growth and innovation development. And their training quality has a direct impact on the development of different industries. Only by giving full play to the advantages and characteristics of vocational colleges in the cultivation of innovation and pioneering talents, and exploring a method and path suitable for the cultivation of craftsmen in higher vocational colleges, can we make a contribution to our goal of creating a great country and a strong industrial power.

2. Spiritual Connotation

2.1. Craftsman's spirit

Craftsman's spirit is the comprehensive presentation of professional ethics, ability, quality and other aspects. According to the viewpoint of Jean-Francois Liotta, a research scholar, shows that the most important task of university education is to help students cultivate a good spirit, which is driven by the organic integration of theory and skill acquisition [1]. Craftsman's spirit has an important guiding role for practitioners to better integrate into the work, seriously study, and be actively responsible [2]. For higher vocational personnel training, the craftsman's spirit is reflected not only in the "excellence" of technology and skills, but also in the "focus on the profession" in theory and practice; not only the spiritual sense of responsibility for the cause, active dedication and mining self-value, but also plays a positive role in promoting the cultivation of social workers with innovation and pioneering spirit.

2.2. The relationship between craftsman's spirit and the cultivation of innovation and pioneering talents

In the process of cultivating talents in various industries for the society, higher vocational

colleges need to pay attention to the cultivation of students' craftsman's spirit. In this process, while improving the knowledge reserve, we should also pay attention to the improvement of aesthetic level and persevere, which is obviously consistent with the cultivation of innovation and pioneering talents in terms of value orientation, training goal, training representation and thinking mode [3].

2.2.1. Both of them pay attention to the construction of moral system

Craftsman's spirit is an extremely excellent professional spirit for practitioners. Under such circumstances, if employees want to have excellent professional character and quality, they need to be effectively implemented in specific work and build a set of sound professional ethics system [4]. Higher vocational students learn all kinds of knowledge and skills in school in order to enter the society more smoothly. Therefore, it is essential for higher vocational students to cultivate craftsman's spirit, because it is directly related to the development of various industries. Therefore, both of them attach great importance to the cultivation of professional spirit and professional ability at the value-oriented level.

2.2.2. Both of them are in line with the goal of talent training in vocational colleges

At present, China is in a critical period of economic transformation and development, and innovation and pioneering is a new "engine" in the process of economic development. Higher vocational colleges are expected to attach great importance to the cultivation of students' innovation and pioneering ability in order to cultivate a new type of applied talents in line with the development of the current era. The continuous pursuit and improvement of products of craftsman's spirit is the professional ability requirements and internal driving force of higher vocational innovation and pioneering talents training, which directly meets the objective requirements of talent cultivation in colleges and universities. At present, the entrepreneurial success rate of college students is very low, and the reason why this situation occurs is closely related to the education that students receive at school. Many teachers do not pay attention to the cultivation of students' professional ability and quality. Many students are lack of passion for innovation and pioneering, and dare not fight or break through. They will choose to retreat when they encounter setbacks, and their pressure resistance ability is very poor.

2.2.3. Both of them pay attention to the unity of professional skills and professional ethics

The traditional craftsman workshop is a kind of education mode of "teachers teach, students learn". On the one hand, they pay attention to explicit knowledge such as skills and crafts. On the other hand, they pay attention to the cultivation and inheritance of professional qualities such as striving for perfection, conscientious in duty and being cautious in solitude. Excellent craftsmen pursue "both virtue and art". The training of art talents in higher vocational colleges should not only impart basic knowledge to students, but also help students cultivate their ideas and abilities of innovation and pioneering. With the help of the "classroom + studio" mode, a series of innovation and pioneering courses are expected to be set up to inspire students' innovation and pioneering concept, and learn the relevant knowledge of business management, laws and regulations, etc. At the same time, it's essential to carry out some innovation and pioneering practice activities to guide students to apply their own practical ability in activities. Both of them reflect the personal teaching of "technology" and "art", and the influence of "morality" and "Tao", which are the key to cultivate craftsman's spirit and innovation and pioneering talents.

2.2.4. Both pay attention to the elements of innovation and pioneering education

The craftsman's spirit is the embodiment of the spirit of innovation in detail, and it is the key to enhance labor skills, improve and develop technology, and ensure product quality. The competition of product quality is mainly the contest of technical strength. Therefore, the craftsman's spirit is the foundation of quality, and innovation is the soul of craftsmen. The core of innovation and pioneering talents training in higher vocational colleges is to enable students to deal with various difficulties flexibly, to be reasonably flexible in the face of choices, to sort out ideas in their work, to find out where the problems lie, and to find appropriate ways to solve the problems. Therefore,

whether it is the cultivation of innovation and pioneering talents in higher vocational colleges, or the cultivation of traditional craftsman's spirit, are extremely important. Both of them are indispensable, and the cultivation of innovation and pioneering thought should be carried out in the whole process.

3. The Importance of Craftsman's Spirit to the Cultivation of Higher Vocational Students' Innovation and Pioneering

3.1. Stimulate the passion of innovation and pioneering

At present, with the increasingly fierce competition in various industries, the competition among enterprises has gradually shifted to the scramble for talents. The cultivation of talents is extremely essential for higher vocational colleges. Enterprises should not only impart knowledge and skills to students, but also help students cultivate craftsman's spirit. Only in this way can they study hard, devote themselves to their work after entering the society, and better realize their own value. However, many people born in the 80s and 90s have superior living conditions from an early age, have weak ability to resist setbacks, are eager for success, and lack patience and the spirit of enduring hardships. A lot of college students follow the trend blindly only on impulse and without objective analysis, therefore, when they encounter problems, they are often easy to give up, unable to persist, and ultimately unable to achieve success. Craftsman's spirit is in line with "it needs to sit on cold stool for ten years". It requires people to do things in a down-to-earth manner, spend a long time only working in one field, stick to their work, be steadfast and willing to do it, and strive for excellence. Therefore, the close connection between innovation and pioneering and craftsman's spirit can help students become more independent, firm and confident in the hardship, and enhance their enthusiasm for innovation and pioneering.

3.2. Improve the ability to solve practical problems

We should cultivate innovative and pioneering talents in vocational colleges through a series of theoretical and practical courses to stimulate students' innovative and pioneering spirit and imagination. It is necessary to integrate craftsman's spirit into the education system of vocational college students' innovative and pioneering, and carry out activities such as "teaching, helping and leading" to carry out activities (i.e., teacher leading apprentice, skill competition and technical assistance) to improve students' ability of problem-solving, interpersonal communication, unity and cooperation in practice. Thus, it is normal to jointly improve technology and overcome difficulties, constantly enhance their innovative and pioneering ability, and bring more value to the society through the spirit of ingenuity.

3.3. Exercise and improve students' professional ethics

Professional ethics is an important part of craftsman's spirit. In this context, we need to pay more attention to the cultivation of students' professional ethics to make students constantly polish products, pursue the extreme in the work, and achieve better development. In the process of cultivating students, vocational colleges need to be based on the development needs of the entire society, and according to the needs of the development for talents, cultivate and export more high-quality, professional-operated talents to the society, who can actively follow professional ethics and be able to find ways to solve problems when they encounter difficulties, rather than escape them, in order to make a contribution to the realization of China's great dream of rejuvenation.

4. The Present Situation of the Cultivation of Higher Vocational Students' Craftsman's Spirit

4.1. From the perspective of schools

Compared with undergraduate college students, higher vocational students will face many difficulties at the initial stage of innovation and pioneering (i.e., lack of experience, funds, projects,

platform and guidance etc.). However, many vocational colleges are restricted by their own conditions, and unable to provide students with better conditions for innovation and pioneering. On the other hand, the curriculum system, teaching practice and curriculum evaluation system of innovation and pioneering education are not systematic and comprehensive. At the same time, many vocational colleges fail to integrate craftsman's spirit into the cultivation of students' professional spirit, or unilaterally pursue economic benefits, which leads to students' serious utilitarianism during their innovation and pioneering. Otherwise, many vocational colleges are unable to achieve the organic integration of theoretical and practical activities, and students do not have a high enthusiasm for innovation and pioneering.

4.2. From the perspective of teachers

In the current stage of development, many vocational colleges will hire both internal and external teachers to guide students during their innovation and pioneering. As the guidance of students, on the one hand, teachers should teach students practical experience and problem-solving ability, on the other hand, they should help students establish a correct concept of innovation and pioneering, which requires that teachers must have both theoretical basis and practical experience. However, the reality is that internal teachers usually only stay at the level of books and "speaking", they lack practical social experience and practical feasibility. Because external teachers are only working part-time, the degree of input and the number of guidance are not enough. Therefore, due to the lack of continuity of guidance, the effect is not obvious.

4.3. From the perspective of students

The family background of contemporary higher vocational students is relatively superior, and they generally lack the adventurous spirit. In particular, higher vocational students do not have high self-awareness, can not correctly realize the importance of innovation and pioneering, and are more inclined to pursue an insipid and stable life. Even if some people choose to start innovation and pioneering, they will give up halfway and will not be able to hold on to the end. Through the analysis of the failure cases of innovation and pioneering of higher vocational students, it is found that there are three kinds of psychology: first, they are not good at making use of effective materials and interpersonal resources for their own innovation and pioneering. Instead, they only focus on the innovation and pioneering activities itself; second, they are not flexible enough to deal with emergencies and it is difficult for them to find effective methods and strategies in a short time; third, with the weak ability to resist setbacks, once they encounter difficulties, they are discouraged and depressed, and easy to retreat and give up. Without the courage of innovation and pioneering, it is difficult for them to achieve success.

5. The Training Mode of Higher Vocational Students' innovation and pioneering talents from the Perspective of craftsman's Spirit

5.1. "Modern apprenticeship system" sharpens innovation and pioneering skills

The inheritance of master and apprentice is not only an effective way to inherit Chinese traditional craftsmanship, but also the original prototype of vocational education. With the development of the times, different industries and social needs make the traditional apprenticeship system gradually move towards vocational education, forming a modern apprenticeship system. Combined with the current actual needs and existing conditions, we need to do a good job in two aspects: one is to optimize the training program of innovation and pioneering talents and clearly infiltrate the craftsman's spirit into the teaching courses of various departments. At the same time, it is necessary to increase investment and carry out small class system and peer-to-peer teaching to maintain a single, accurate and lasting teaching environment inherited by traditional teachers and apprentices. In terms of teaching content, we can formulate differentiated teaching courses and contents according to students' characteristics and personality, stimulate students' learning enthusiasm, improve students' imagination level, and lay a solid foundation for students' innovation

and pioneering. Second, higher vocational colleges and social enterprises should actively cooperate to provide more platforms and opportunities for students' practical activities. Colleges can also cultivate and deliver talents with higher professional ability and quality according to the talent demand of enterprises. Besides, colleges can use modern multimedia technology to set up MOOCS platform for innovation and pioneering courses, and invite industry masters and experts to assist teaching online and offline. In this way, it can greatly enhance the students' broad vision and give them the opportunity to acquire more updated knowledge and technology.

5.2. “Multidimensional matrix” to create innovation and pioneering space

In addition to skills teaching at school level, the cultivation of students' innovation and pioneering ability also needs the support of the government, industry, enterprises and other aspects, and form a mutual matrix to create a space for innovation and pioneering. The first is to enhance the identity from the dimension of the government. Although the national level has attached great importance to vocational education and craftsman's spirit, these are only macro policy guidance, and have not really fallen into the industry and entered the hearts of the people. Therefore, it is necessary for governments at all levels to comprehensively establish and improve laws and regulations and incentive guarantee measures from the perspective of top-level design and systematic thinking to continuously improve the economic treatment and social status of craftsmen. The second is to pay attention to participation from the industry dimension. The cultivation of craftsman's spirit needs the relevant pillar industry strength to strengthen the docking between schools and industries, make the industry demand become the source power of craftsman talent training, let industry resources and contacts become the important driving force of craftsman's spirit cultivation, overcome the single and unstable factors of school enterprise cooperation, and make the cooperation between schools and industries from point-to-point to point-to-face in-depth cooperation. The third is to strengthen coordination from the enterprise dimension. On the one hand, enterprises can arrange craftsmen as off campus guidance to participate in the guidance of students during the University, on the other hand, they can also actively participate in the goal setting, specialty setting, practice base construction, teacher training of innovation and pioneering talents in higher vocational colleges to jointly cultivate innovation and pioneering talents needed by enterprise development.

5.3. “Craftsman culture circle” ensures the continuity of innovation and pioneering talents

If higher vocational colleges want to cultivate more talents with craftsman's spirit, it is of great significance for them to pay attention to the cultivation of students' ingenuity spirit, clarify the internal logical relationship between vocational skills and spirit, and formulate scientific and reasonable talent training program to obtain better development. It is necessary to eliminate cultural prejudice, create a good development pattern, and help students cultivate correct values.

First, we should pay attention to the cultivation of craftsman's spirit, so as to help students in higher vocational colleges cultivate good entrepreneurship and innovation spirit, weaken the negative impact of management mechanism, timely guide and help students with innovation and pioneering ideals and thinking to establish lofty ideals, and guide students to establish correct values with teaching and their own quality. The spirit of craftsmanship can be conveyed by sharing successful cases and advocating socialist core values and through our own words and deeds.

Second, the reasonable integration of craftsman's spirit teaching can distinguish school running orientation and professional characteristics, set up reasonable teaching courses, reform teaching methods and carry out diversified teaching exploration. Through a series of lectures and seminars, students can have more opportunities to have direct dialogue with experts, scholars and masters in related fields to guide them to pay attention to craftsman's spirit. At the same time, innovation and pioneering education should adapt to the development needs of the new situation, change the assessment method, improve the evaluation method of learning results, and can replace graduation dissertation with works.

The third is to sharpen the spirit of craftsmen in practice. Higher vocational colleges need to combine theoretical teaching with practical teaching to improve the comprehensive quality of

students and provide a variety of practical opportunities for innovation and pioneering. We can actively introduce excellent teams to settle in by setting up college students' entrepreneurship park or student entrepreneurship studio, incubator, and opening innovation and pioneering activity corner, so that students can quickly understand and familiarize with the process, and make students gradually internalize their innovation and pioneering awareness in practice; we can hold or participate in multi-level and regional innovation and pioneering competitions, which can temper students' psychological quality and team spirit in continuous polishing and competition, and make the project more and more mature in the continuous reflection. At the same time, teachers should also timely dredge students' emotions, help them review and analyze in time, and grow together with them.

The fourth is to cultivate the craftsman's spirit in the campus entrepreneurial culture. First, we should strengthen the construction of campus characteristic culture from the campus, create a good learning environment suitable for innovation and pioneering education, and stimulate students' enthusiasm for entrepreneurship and innovation. It is necessary to make full use of the natural environment on campus to create a natural landscape with development potential, exert an imperceptible influence on students and attract more students' attention. Second, we should actively make use of excellent corporate culture to enhance students' entrepreneurial spirit.

On the one hand, it is necessary to actively promote the cooperation between schools and enterprises, and improve students' knowledge structure by internships, so that students can immediately understand the development trend of relevant industries, make timely knowledge and technology reserves, and improve themselves; on the other hand, some industry experts and experienced craftsmen can be actively introduced to the ranks of teachers to help students have a deeper understanding of craftsman's spirit.

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