

Research on Cultivation Path of Craftsman Spirit of Petroleum Engineering Students

Kaili Liao^a, Lipei Fu^b

School of Petroleum Engineering, Changzhou University, Changzhou, 213164, China

^aliaokaili@cczu.edu.cn, ^bfulipei@cczu.edu.cn

Abstract

The craftsman spirit has existed since ancient times. The repeated mention of the craftsman spirit in the government work report of the State Council of China gives the craftsman spirit a new era significance, and shows the determination to promote and cultivate the craftsman spirit at the national level. In order to realize the dream of strengthening the country by oil in the new period, the education of petroleum engineering specialty needs to aim at cultivating the talents of petroleum engineering specialty with craftsman spirit. Firstly, the connotation of craftsman spirit in the new period is expounded, and then the necessity of craftsman spirit education for college students majoring in petroleum engineering is analyzed. Finally, the feasible path of cultivating craftsman spirit for college students majoring in petroleum engineering is put forward from the aspects of individual, teaching and practice.

Keywords

Petroleum engineering; Craftsman spirit; Cultivate.

1. Introduction

"Craftsman spirit" was first written into the government work report of the State Council in 2016, and again in 2017, 2018 and 2021. It has been mentioned at the National Congress of the Communist Party of China for many times. Craftsman spirit has risen to become a national strategic thinking. Craftsman spirit is not only the spiritual source of China's economy from high-speed growth stage to high-quality development stage, but also the moral guidance of youth growth. It is of great significance to integrate craftsman spirit into college education in the new period and cultivate successors with craftsman spirit. Energy is the driving force of economic and social development. China is the largest importer of oil and gas, and its oil and gas self-sufficiency is not strong. With the deepening of exploration and development of conventional oil and gas fields and the decreasing of remaining resources, the challenge of continuously maintaining oil and gas storage and production in oil and gas industry is becoming more and more serious. Faced with such severe challenges, the oil and gas industry has put forward higher requirements for personnel training. Cultivating petroleum engineering students with craftsman spirit is of great significance to China's energy security.

2. Connotation of Craftsman Spirit

Craftsman spirit is the spiritual product formed by long-term practice. It is not only a spirit, but also a quality, a pursuit and an atmosphere [1]. The craftsman spirit in the new period can be summarized into four aspects: dedication, excelsior, cooperation and progress, and the pursuit of excellence. These four aspects can be seen everywhere in the oil and gas industry. It is precisely because there are a large number of "great craftsmen" with craftsman spirit in China's oil and gas industry that we can get rid of the hat of "poor oil country" and rank among the first-class sequences in the field of oil exploitation. The spirit of striving for excellence and tackling

key problems will enable people in the oil and gas industry to constantly pursue excellence, work together and overcome difficulties when facing technical challenges. Craftsman spirit is the embodiment of professional ethics, professional ability and professional quality, which is essentially a kind of professional spirit. Cultivating petroleum engineering students with craftsman spirit is conducive to the development of energy industry.

3. Necessity of Cultivating Craftsman Spirit of Petroleum Engineering Students

The cultivation of craftsman spirit of petroleum engineering college students and the planning of petroleum engineering specialty are closely related to the construction of China's oil and gas industry. The ultimate goal of petroleum engineering major training is to make students not only possess petroleum engineering professional knowledge, but also have the ability to analyze and solve problems, and have excellent moral quality, physical and mental quality, international vision, environmental adaptability, teamwork spirit and lifelong learning consciousness. Cultivate senior engineering and technical talents with all-round development of knowledge, ability and quality for the oil and gas industry. Craftsman spirit not only reflects the dedication of petroleum spirit, but also shows a strong spirit of innovation and creativity in the new era, which is the foundation of promoting innovation-driven strategy. Educating college students majoring in petroleum engineering in craftsman spirit is actually to cultivate petroleum science and technology talents with strong innovation ability and high scientific literacy, which are urgently needed by society in the new period, and to cultivate engineering professionals with strong social responsibility, excellent professionalism, innovative spirit, practical spirit and professionalism. Pay attention to the comprehensive education of oil and gas engineering technology professionals and craftsman spirit. Only by cultivating oil and gas technology talents with both ability and political integrity can we better help China's economic progress and development and further promote the craftsman spirit.

Energy is the foundation and pillar industry of the national economy, and the oil is the blood of the economy. As an oil industry practitioner, we should not only have strength, but also understand technology, wisdom, invention and innovation. In the process of cultivating students majoring in petroleum engineering, craftsman spirit should become the daily code of conduct of students and the important spiritual support for their success[2,3]. Li Shousheng, president of China Petroleum and Chemical Industry Federation, pointed out at the 3rd National Conference for Commending Advanced Collective, Model Workers and Advanced Workers in Petroleum and Chemical Industry that "we should vigorously carry forward the spirit of model workers and craftsmen, and strive to start a new journey of building a powerful country in petroleum and chemical industry in the new period". At the 3rd "Petroleum Spirit Forum" held by China National Petroleum Corporation, Jiang Tao, a special model worker, pointed out in his speech that "intensive cultivation in production is the improvement of oil workers". The development of China's oil industry is inseparable from the intensive cultivation and excellence of employees. Practitioners in various fields and professions in the oil industry, adhering to the "craftsman spirit", strive to improve quality and efficiency, and contribute to ensuring country's energy security. The students majoring in petroleum engineering should study professional knowledge with the enthusiasm of "I dedicate the oil to my motherland" during their school years, and devote themselves to the cause of ensuring country's energy security with the enthusiasm of "artisan spirit" after graduation. A person with craftsmanship spirit is bound to be less impetuous, more pure, less opportunistic, more down-to-earth, less eager for quick success and instant benefits, and more focused and lasting. Combining the teaching of petroleum engineering specialty with the cultivation of craftsman spirit, guide the college students of petroleum engineering to cultivate the craftsman quality such as excellence, truth-

seeking and innovation, dedication and commitment, and cultivate the students to be all-round quality talents who contribute to the socialist modernization construction and the realization of the Chinese dream in the new period.

4. Cultivation of Craftsman Spirit of Petroleum Engineering Students

4.1. Cultivate Craftsman Spirit from the Individual Level

Cultivating the craftsman spirit of petroleum engineering college students should start with cultivating their craftsman consciousness. Only by understanding the students' thoughts can the training plan be formulated. And a clear understanding of students' thoughts and actions can guide students' value orientation. To cultivate the craftsman spirit of college students majoring in petroleum engineering, it is necessary to make students have the consciousness of craftsman spirit. Then guide students to form correct values, conduct reasonable independent learning, and consciously form correct learning attitude, lofty morality and patriotic ideal in the learning process, which is very important for cultivating craftsman spirit.

First, establish a correct learning attitude. Attitude determines everything, and details determine success or failure. To improve self-awareness, we must mobilize a positive learning attitude and establish a correct learning attitude. This requires petroleum engineering students to master the basic concepts of craftsman spirit and deeply understand the value and connotation of craftsman spirit in the process of study and life, so as to strengthen the determination and belief of cultivating craftsman spirit, and then stimulate the will of craftsmen, thus taking the important first step of cultivating craftsman spirit. Promote students to realize the guiding significance of craftsman spirit to career development ideologically. This requires petroleum engineering students to effectively master the basic concept of craftsman spirit in the process of learning and living, and deeply understand the value and connotation of craftsman spirit, so as to strengthen the determination and belief of cultivating craftsman spirit. Then stimulate craftsman spirit, and made an important first step to cultivate the spirit of craftsman spirit.

Second, cultivate noble professional ethics. Professional ethics is the basic moral norm and code of conduct that employees must abide by in their professional career. After graduation, college students majoring in petroleum engineering enter the oil and gas industry, shouldering the important task of guaranteeing oil and gas production. The cultivation of professional ethics is an important part of the construction of socialist spiritual civilization under the new situation. Cultivating noble professional ethics can enable contemporary students majoring in petroleum engineering to have a solid craftsman foundation. In practice, students should cultivate down-to-earth behavior, show their professional talents, and make modest contributions to ensure the safety of oil and gas supply.

Third, establish patriotic ideals and beliefs. Firm ideals and beliefs can make people raise the sails of life in dangerous situations, never lose the direction of struggle in hesitation, and never give up their original intention in thorns. The fate of young people is closely related to the future of our country. Young people should have the ideal and belief to forge ahead together with our country. By 2035, China's external dependence on oil and gas will exceed 70% and 55% respectively, and the proportion of net imports in world trade will exceed 15%. Oil and gas supply security is facing great challenges. College students majoring in petroleum engineering will be the backbone of science and technology in oil and gas industry in the future, and will definitely play a decisive role in the development of oil and gas industry. Therefore, college students majoring in petroleum engineering should be concerned with the future of petroleum engineering technology field, enhance their talents through constant exercise, and never forget their original intention and keep forging ahead.

4.2. Cultivating Craftsman Spirit from the Teaching Level

The cultivation of craftsman spirit belongs to the project of morality education in the new period. It is also the responsibility of moral education in colleges and universities, and is an important part and content of ideological and political education. Not only ideological and political teachers should actively cultivate craftsman spirit, but also professional curriculum teachers should pay attention to the cultivation of craftsman spirit.

To cultivate the craftsman spirit of petroleum engineering college students, we should be good at publicizing the advanced deeds of industry models, strengthening the influence of industry models, transforming traditional classrooms and introducing craftsman spirit. To cultivate the craftsman spirit of petroleum engineering students, we should be good at promoting the advanced deeds of industry models, strengthening the influence of industry models, reforming the traditional classroom and introducing the craftsman spirit.

First, keep up with the advanced models. Oil and natural gas are important basic industries of the national economy with glorious history and revolutionary tradition. Whether in the period of democratic revolution or socialist construction, whether in the period of reform and opening up or the great rejuvenation, the oil industry has emerged a batch of national backbones, industry heroes, condensed industry unique valuable spiritual wealth. From Wang Jinxi to Wang Qimin, students majoring in petroleum engineering never lack examples. A large number of advanced models in the industry are examples and development goals for petroleum engineering students and practitioners. The report of the 19th National Congress of the Communist Party of China pointed out that the army of knowledge-based, skilled and innovative workers should be built, the spirit of labor model and craftsmanship should be promoted, and the glorious social customs of labor and the dedication of excellence should be created. The craftsman spirit interprets the spirit of firm, persistent and excellence. To promote the cultivation process of cultivating the spirit of modern craftsman spirit, we must learn from and keep up with the advanced models. Therefore, during the teaching process, leading figures in the oil and gas industry can be invited to the college to make lectures and seminars. By explaining their deeds, the college students majoring in petroleum engineering can further enhance the sense of authenticity and reality of craftsmanship spirit, so that they can be infected and inspired.

Second, promote the diversification of educational forms. The traditional cramming teaching mode can no longer meet the requirements of the current curriculum, let alone make students' cultural literacy and ability to fully adapt to the needs of the current social environment[4]. Promoting the diversified development of teaching forms is a compulsory course for cultivating the craftsman spirit of college students majoring in petroleum engineering. We can not only improve the interest of classroom teaching by using new media, but also enhance the effectiveness of classroom teaching by effectively and reasonably planning teaching arrangements. Integrate the craftsman spirit education into the curriculum of college students majoring in petroleum engineering, appropriately set up the basic engineering knowledge section, professional and technical knowledge section and field practice section, and combine the professional characteristics of petroleum engineering with their social needs, so as to improve the professional innovation ability and professional quality of college students majoring in petroleum engineering. In addition, the cultivation of craftsman spirit is a long-term process, and the cultivation of craftsman spirit can not be completed only by education during school. When students start working, it means the end of school education. How to enable students to cultivate craftsman spirit after leaving the campus requires the linkage between schools and enterprises, and the implementation of this aspect needs more exploration.

4.3. Cultivate the Craftsman Spirit from the Practical Level

Practice is the purpose and destination of cognition. The cultivation of craftsman spirit should be combined with experiential practical teaching. In the development of China's petroleum and petrochemical industry, the petroleum spirit with "Daqing spirit", "Iron Man Spirit" and "Hard work" as the core has always been the soul and foundation of the petroleum and petrochemical industry [5]. Making good use of petroleum spirit education resources can not only improve the attraction and appeal of ideological and political theory courses, but also strengthen the ideal and belief education of petroleum engineering college students in teaching practice. It is not only possible to carry out experiential seminar-based practical education by using the practice base and production practice outside the school, but also to motivate students with the advanced deeds and achievements of the oil spirit and the oil industry. It can also actively organize students to carry out social practice education with craftsman spirit as the theme, so that students can realize the historical content of craftsman spirit from social practice activities, and clarify the important role of craftsman spirit in personal development and industry development. It is necessary to make students change their misconceptions that it is meaningless to participate in practical teaching activities, and guide students to actively participate in quality development activities such as professional knowledge competition, innovation and entrepreneurship competition, such as national petroleum engineering design competition, oil and gas storage and transportation engineering design competition, etc. College students majoring in petroleum engineering should seize the opportunity to actively participate in various practices, actively explore the ability to solve practical problems in innovative practical activities, develop the consciousness of unity and cooperation and the thought of courage to criticize suspicion, and learn to treat problems dialectically. Practice is the best way to strengthen the cultivation of craftsman spirit of students majoring in petroleum engineering. Turn the theoretical concept of craftsman spirit into concrete practical activities and apply it to the production practice of petroleum engineering, realize the unity of theory and practical activities, and promote the all-round vigorous development of students by cultivating the craftsman spirit, so as to give full play to the value of life and help to realize the great Chinese dream.

5. Conclusion

Cultivating high-level outstanding petroleum engineers is the fundamental task and important mission of petroleum engineering education. To build a strong energy country, a group of "great country craftsmen" with professional knowledge and moral spirit are urgently needed. It is necessary to cultivate students' positive emotion and the will to practice craftsman spirit, guide students to know skilled craftsmen in oil industry, and aspire them to be contemporary craftsmen who make contributions to the country and society. Cultivating more petroleum engineering professionals with craftsmanship spirit is the historical responsibility and honor of our Petroleum and petrochemical colleges and universities.

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