

Exploration in Ideological and Political Education Based on the Courses of Mechanical Major

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Abstract: The cultural confidence is crucial to the development of a country. Based on China's national conditions and the learning habits of Chinese students, this paper explores the topics and designs of integrate curriculum ideology and politics into the courses of mechanical major in higher education. The topic of cultural self-confidence is raised nowadays after chronically low cultural confidence along with comprehensive development in all fields. This positive recognition of cultural self-confidence can help students setting specific plans to apply for a job and their further study under learning the examples with profound implications of strong willpower, vitality of high-quality traditional culture, differentiated aesthetic and development direction of China.

1. Topics of the course in ideological and political education

The all-round development of human refers to the all-round development of virtue, intelligence, body and appreciation of beauty, in which virtue is the most important, mainly paying enough attention to shape students' world outlook, outlook on life and values, and the cultivation of cultural knowledge, sportsmanship, aesthetic sentiment and sound personality, so as to establish a solid value foundation for students to grow and become talented. Moreover, comprehensive development also need to pay attention to personality training on the basis of comprehensive expertise. There is a fact of china that all the college graduates who major in mechanical design, manufacturing and automation have learned all fundamentals course, but most of them lack social experience and have no specific plans to apply for a job and their further study. In addition, students like innovative and practical things, and pay attention to daily news, interesting events and the relationship between what they learned and personal and social needs. They also hope to get immediate achievements after learning major courses and to know what the courses will bring to them in their further study and applying for a job [1]. Students learn multidisciplinary knowledge with the aim of forming a quality foundation by achieving a holistic understanding of human knowledge. This requires that the knowledge of professional courses can not be fragmented, strict barriers, but should be internally integrated and complete to achieve the overall effect of education. Therefore, it is necessary to make overall designing for the multidisciplinary value elements. And then teachers should not only impart knowledge systematically and scientifically in "curriculum thinking and politics", but also pay attention to establishing multi-dimensional blending relationship between knowledge and people and

life. For example, we should not only introduce the achievements of scientists in creating knowledge, but also spread their courage to explore, patriotic feelings and perseverance, thus cultivate students' interest in learning and pursuit of new knowledge to inherit the noble personality and dedication of scientists.

The excellent traditional Chinese culture is the accumulation of wisdom of the Chinese nation in the long-term historical practice of wisdom, but the learning of traditional cultural knowledge is excessively dependent on the teaching of Chinese classroom for a long time, and rarely integrates it into other classroom teaching or into the education as a single section [2]. In order to combine value-oriented course with the professional knowledge of major curriculum, the ideological and political themes, cultural self-confidence, could be a good choice integrated into the instructional design. As we all know, after the Opium Wars, China has got stuck and Chinese people have suffered due to wars one after another, which leads China fall behind other countries in many respects for a long time and Chinese people lose the national confidence. But fortunately, manufacturing industry of China has grown from absolutely nothing to large, rapid development after one hundred years' struggle, exploration and growth under the leadership of the Communist Party of China. When cultures flourish and become strong, communities and nations do as well. Cultural self-confidence is the most basic, deepest and most lasting force in the development of a country and nation [3]. A positive and good culture is an important bond which maintains the closest relations between a nation and a country and shares weal and woe with each other. Based on the guidelines followed in the design of the professional curriculum, students need to be cultivated with a realistic and pragmatic craftsman spirit. With the coming out of manned spaceflight, deep-sea exploration, telescope and other major heavy equipment and national projects such as the Qinghai Railway, the Three Gorges Project, and frequent success of the South-to-North Water Diversion Project, these exquisite mechanical system design can be used to establish students' pride and stimulating their enthusiasm for innovation during the rapid development of China's manufacturing industry. Combined with the history of mechanical development, students should be encouraged to consciously integrate their personal ideals into the developments of the country and nation to improve the sense of mission and cohesion of the nation thus realizing educating students in a very different unnoticed way.

2. Design and exploration in teaching

Each nation has its own culture and hopes that its own cultural can be dazzling and stand proudly out and even be able to lead the world cultural trend, but not every nation can generate this kind of self-confidence. Furthermore, the issue of "cultural self-confidence" should be a materialistic vision, a comparative thinking and a historical vision instead of discussed in an abstract manner. In order to wake up "cultural self-confidence", every young people should be equipped with this self-confidence. College students have knowledge, they should have appropriate "cultural self-confidence". However, the establishment of self-confidence is not a one day's gain. It needs to be achieved in all aspects with subtle cognition and self-identification. The culture of a subject learning is the sum of the knowledge system composed of symbols, terms, axioms, laws, etc., value system including discipline system, ethical norms, etc. and behaviour habits, which gradually formed and accumulated in the development of professional courses. Since the professional members enter the professional studies and researches, the culture of subject learning will influence and shape the members' ideological understanding, thinking mode, value orientation and other deep quality by strict training, guidance and edification. Therefore, the willpower of the nation and the vitality of culture should be given expression to students in the implementation of the teaching process to stimulate students' conscious cognition of the direction of national cultural development, and establish students' great confidence in the bright prospects of the growth of the nation.

2.1 Devoting the willpower of the Chinese nation and the vitality of culture by combining the development of China's manufacturing industry

Philosophy, history, economics, management, law, politics and other social sciences and humanities focus on the world of meaning and value pursuit of human survival and development, which is the ultimate concern for human beings and contains rich moral education resources. This has been a consensus among teachers of high education and even the whole society. However, the subject of natural science and engineering technology also has the function of ideological and political education. The teaching of professional courses provides a broad background and a profound foundation for the development of ideological and political education, and even can give a strong scientific force for ideological and political education. And we should understand that ideological and political education will be more convincing, appealing, effective and targeted if the professional knowledge system plays a role in carrier. Each professional courses carries a certain function of spiritual reconstruction and value enlightenment for students. This part shows what complex international situation manufacturing industry face, how China's manufacturing industry overcome difficulties and become a veritable "world factory" and world's manufacturing country from the period of newly-founded and extremely poor over past 70 years' development. This is attributed to two ideological and political elements: one is the willpower of the Chinese nation. Strong willpower can let the whole nation condense into a rope which is greatly closed, and even can sacrifice self-interest to achieve more interest of their country and overcome the huge difficulties to achieve development. And this kind of willpower has obtained respects by the world. The second is the vitality of high-quality traditional culture. Chinese civilization is one of the oldest and it is also one of the longest-lasting civilizations all over the world. The positive and philosophical ideas it contained still have strong influence after a long time.

In the view of embedding elements of willpower of the Chinese nation and the vitality of culture into courses, the great efforts behind the well-known events such as the success of the atomic bomb and hydrogen bomb tests are good examples for presenting Chinese nation's willpower. The willpower of the Chinese nation originates from the accumulation of everyone. When the country is constantly going stronger and stronger, it implies that everyone is using their own wisdom and efforts to insist on their works and studies while overcoming countless difficulties and problems to achieve their personal value. For the vitality of Chinese culture, the Huoshenshan and Leishenshan emergency hospitals were established rapidly when the epidemic was extremely serious in Wuhan. All the behaviours that doctor and nurses who were working hard for civilian lives and the whole nation were fighting together against the virus have formed numerous heartwarming and impressive pictures. These are vivid examples show the cultural vitality. It is also the unconscious behaviours guided by Chinese culture that enable everyone to overcome the disaster of the epidemic as quickly as possible and save countless lives. This is the vitality of Chinese culture. All the Chinese people are united and they can do anything. The impressive examples of not only the success of the atomic bomb and hydrogen bomb tests but also overcoming the epidemic will catch hold of attentions of students, which results in better learning motivation and effect on the knowledge points [4]. Meanwhile, the thought-provoking cases will inspire students to think about their own contributions for country and society. Therefore, they will consider the relationship between the present and their further, then conduct goal directed and effective learning.

2.2 Devoting the new development direction by combining China's traditional culture and key issues

This part mainly focuses on the differences between Chinese and Western cultures to teach students the essence and development direction of Chinese culture, as well as the era of information

interaction, the exchange of people, the transplantation of property, the mutual influence of customs and habits such as clothing, food, housing, transportation, weddings, funerals, etc., and the spread of ideas, religion, literature, art, etc. Facing a large number of different cultures, we must learn to identify disadvantage cultures while absorbing advantage cultures to obtain efficient developments. In this part, there are three points listed as the ideological and political elements. Firstly, the Chinese culture, "emphasizing benevolence, valuing the people, keeping integrity, advocating justice, upholding harmony, and seeking great harmony" should be continuously deeper revealed through teachers, and then its essence is accurately grasped and absorbed by students. Secondly, the independence and pioneering from western culture should not be ignored but be learned seriously, and the continuous intellectual exploration of natural and social phenomena is also worth promoting. Thirdly, the development direction of China is to move towards modernization while sticking to its roots. Chinese cultural stance must be firmly supported and an objective, scientific and respectful attitudes must be firmly adopted [5]. Not only our roots must be stuck to but also the times must be kept pace with creative transformation and innovative development.

Students' thoughts are changeable and malleable. In addition to receiving the education of mainstream ideas and socialist core values in school, they are also influenced by various non-mainstream public opinions and various values in society. This requires teacher pay thoughtfulness to the cultivation of students' knowledge and ability in classroom teaching, and also do some works in guiding students' thoughts and shaping their values. Follows are the reasons and implementations why above three ideological and political elements are selected. Firstly, the mechanical transmission design with the philosophical ideas of Chinese culture, "emphasizing benevolence, valuing the people, keeping integrity, advocating justice, upholding harmony, and seeking great harmony", should be combined in courses. The design of things comes from people's thoughts, so only the correct thinking can design the correct mechanical parts and devices. Secondly, the current hot issues such as "differentiated aesthetic" and other discussions are illustrated to teach students to form correctly views for differences and competition and national self-confidence from the aesthetic differences between countries to the inevitable competition and contradictions in science and technology. The inherent national pride will be a mental stimulation which can help finding ways to solve the bottlenecks. Thirdly, the current hot "Internet celebrity" and "the pursuit of personalization" etc., are presented to clarify that innovation deserves to be encouraged. However, it is not only the pursuit of difference, but also the objective, scientific and correct aesthetics combining the innovation needs in mechanical design. While pursuing innovation and new culture, the roots of its country must be stick to and development pace must be kept with the times so that a good job in creation and innovation can be done. The establishment teaching system for mechanical disciplines that is anchored in the integration of science, education and industry holds immense promise for the future of engineering education, along with the requirements of new engineering, which helps to cultivate innovative and application oriented multi-disciplinary talents with the ability to solve complicated mechanical engineering problems, strong engineering practicality, continuous learning capabilities, innovative thinking and an international perspective [6].

3. Conclusion

Machinery manufacturing is essential to the development of every country. And college students are the potential of development energy for manufacturing industry of country. It will be meaningful not only for themselves but also for social prosperity if students could be more active to learn the knowledge of mechanical major courses. In this paper, the elements of ideological and political education are explored and designed based on the courses of mechanical major in higher education. The topic of cultural self-confidence can be the sources of internal motivation to awake students'

awareness and needs in self-development and personality shaping. Therefore, the advantages of strong willpower, vitality of high-quality traditional culture, differentiated aesthetic and development direction of China will be expressed with knowledge points by impressive examples and real events in the classes. This will not only enrich the classroom content, but also stimulate students' enthusiasm for learning.

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