

Research on the Role of Curriculum Ideological and Political Education in Promoting the Professional Quality of Science and Engineering Students in Colleges and Universities

Yucun Wang ^{1, *} and Hongxiang Yang ²

¹ Shandong Agricultural University School of Information Science and Engineering, Tai'an City, Shandong Province, China

² Shandong Agricultural University School of Economics and Management, Tai'an City, Shandong Province, China

*Corresponding author. Email: wyc@sdaa.edu.cn

ABSTRACT

Science and engineering students generally have the characteristics of strong logical thinking, rigorous style of study, down-to-earth attitude and strong practical ability, but they also often have the problem of relatively low humanistic quality. Therefore, combined with the professional characteristics of science and engineering students, carry out targeted curriculum ideological and political education, improve their political and humanistic quality while cultivating their professional skills, and cultivate them to become scientific and technological talents who love the party, love the country and the people, which is one of the important objectives and requirements of the state and Society for the current training of science and engineering talents in China. In the training of science and engineering students, we must not only pay attention to the education of scientific and technological knowledge, but also pay more attention to the political and ideological education of students, so as to improve the students' sense of social responsibility to serve the country and the people.

Keywords: *Courses Ideological and Political Education, Science and engineering, high moral values establishment and people cultivation.*

1. INTRODUCTION

College curriculum ideological and political education is to organically integrate the socialist core value system, political consciousness and curriculum professional knowledge advocated by the party and the state, carry out comprehensive education on students' professional knowledge and political literacy in the process of curriculum teaching, and educate people while teaching. General secretary Xi Jinping pointed out: "to enhance the affinity and pertinence of Ideological and political education, to meet the growth and development needs and expectations of students, all other courses should observe a section of canals and cultivate good responsibility fields, so that all kinds of courses can work together with ideological and political theory courses to form a synergy effect."

^[1]This is an important indication of general secretary's ideological and political construction.

Science and engineering is a general term of science and engineering, mainly referring to the integration of nature, science and technology. [2] Generally speaking, the training goal of Neo Confucianism is students' research ability, mainly theoretical research; The engineering science section pays more attention to practical operation. Science and engineering students generally have the characteristics of strong logical thinking, rigorous style of study, down-to-earth attitude and strong practical ability, but they also often have the problem of relatively low humanistic quality. Therefore, combined with the professional characteristics of science and engineering students, carry out targeted curriculum ideological and political education, improve their political and humanistic quality while cultivating their professional skills, and cultivate them to become scientific and technological talents who love the party, love the country and the people, which is one of the important

objectives and requirements of the state and Society for the current training of science and engineering talents in China.

2. THE PROMOTION FUNCTION OF CURRICULUM IDEOLOGICAL AND POLITICAL EDUCATION TO THE COMPREHENSIVE QUALITY OF SCIENCE AND ENGINEERING STUDENTS

For some time, we have some misunderstandings in the training of science and engineering college students. We put too much emphasis on the professional knowledge and skills of science and engineering students, and more or less ignored the education and training of political literacy of science and engineering students. It is true that we need our students to be outstanding in the field of science and technology, but we are more aware that we need not only scientific and technological elites, but also scientific and technological elites with strong family and country feelings for the party, the country and the people. Therefore, curriculum ideological and political education among science and engineering students will promote the cultivation of comprehensive quality of science and engineering students.

2.1. Help Students Deepen Their Understanding of the Course Objectives

At present, the professional curriculum teaching materials of science and Engineering in Colleges and universities in China generally only compile the professional knowledge and skills of the curriculum, and the relevant contents that help to educate students about social core values are often less. If we can't consciously strengthen the ideological and political teaching of relevant courses, students will only pay attention to science and technology itself and ignore what kind of scientific and technological talents they want to become in the process of learning, which is not in line with our educational objectives. Through appropriate curriculum ideological and political education, help students deeply understand what to learn and why to learn, which will help students better understand the curriculum objectives, enhance students' ability to distinguish right from wrong, distinguish beauty from ugliness, strengthen their political position and cultivate their moral sentiment.

2.2. Stimulate Students' Initiative in Learning

Because science and engineering students are often exposed to the most advanced science and technology in the world, curriculum ideological and political education in the process of professional curriculum

teaching will have the effect of cultivating students' national self-confidence and stimulating students' initiative in learning. In the teaching process of related science and technology, we should not only let students see our gap, but also avoid blind arrogance; More importantly, let students see our strength, let students realize China's pioneering achievements in the fields of pulsar navigation technology and quantum communication technology, let students establish self-confidence, stimulate students' scientific spirit of daring to innovate and climb the peak, and stimulate students' initiative in learning.

2.3. Combine Professional Learning With the Great Cause of Dedication Oneself to the Construction of the Motherland, And the Power of Example Will Promote the Specialty

In the field of science and technology, China's scientific and technological workers have made remarkable achievements. The blue book "growing up in reform and opening up" shows that China has the world's largest team of researchers; China is the country with the largest output of papers: China is the country with the largest number of invention patent applications and authorizations; China is the largest net exporter of intellectual property costs^[3]. At the same time, many science and technology experts in China are models of loving the party and patriotism. Huang Danian led the team to create a number of "China's first", fill a number of technical gaps for China's "Sky Survey, earth exploration and sea diving", and make outstanding contributions to the exploration of deep earth resources and the construction of national defense and security.^[4] Yuan Longping, the winner of the first national highest science and Technology Award and the father of hybrid rice, invented the "three-line method" indica hybrid rice, successfully developed the "two-line method" hybrid rice and established the super hybrid rice technology system.^[5] Ma Weiming, academician of the Chinese Academy of engineering, led the development of two subversive technologies of ship integrated power and electromagnetic launch, and made outstanding contributions to the modernization of national defense equipment and the cultivation of high-level talents.^[6] In the course teaching process of science and engineering students, curriculum ideological and political education in combination with relevant scientific and technological achievements and relevant scientific and technological pioneers will help students establish their determination and will to devote themselves to the great cause of the construction of the motherland and help students better grow into scientific and technological talents useful to the country and society.

3. WAYS FOR SCIENCE AND ENGINEERING STUDENTS TO CARRY OUT CURRICULUM IDEOLOGICAL AND POLITICAL EDUCATION

3.1. Make Full Use of Various Teaching Carriers for Curriculum Ideological and Political Education

Although there are many forms of teaching activities, classroom teaching is still the main teaching form of teaching activities in Colleges and universities most of the time. In order to improve the teaching effect of curriculum ideological and political education, curriculum ideological and political education should make full use of classroom teaching. In addition, in the process of compiling the curriculum syllabus and teaching materials, it is necessary to consciously increase the relevant contents of curriculum ideological and political education, so as to facilitate students to study curriculum ideological and political education in the process of curriculum preview or self-study. In recent years, the teaching form of Mu class has had a great impact on students' learning, so the content of Mu class related to ideological and political education can be appropriately increased.

3.2. Teachers Should Improve Their Ideological and Political Ability

General secretary Xi Jinping pointed out that "the key to doing well in Ideological and political theory courses is teachers, and the key is to give play to teachers' initiative, initiative and creativity." the instructions of the general secretary have important guiding significance in carrying out ideological and political education. While constantly enriching scientific and technological knowledge, teachers should constantly strengthen their political learning, deeply understand the educational guiding ideology and guidelines of the party and the state, and use them to guide teaching practice. Only with their own high ideological and political ability, teachers can better integrate teaching and educating people organically in teaching work, so as to establish morality and cultivate people. In addition, teachers' lofty ideological and political literacy will have a good and positive impact on students, which is more conducive to promoting the teaching effect of curriculum ideological and political education.

3.3. Deepen Ideological and Political Education in Combination with Practical Teaching

Science and engineering students have more practical activities. In practical activities, science and engineering students are more likely to be exposed to high-tech equipment and scientific and technological talents with superb technological skills. The vast majority of scientific and technological workers can work hard and conscientiously in their own posts, and selflessly devote their youth and blood for the construction of the motherland and the development of the motherland's scientific and technological undertakings. In the process of practical teaching, from the builders of these countries, students can personally experience the great role of science and technology in promoting society, and the strong work enthusiasm and deep friendship for the motherland embodied in those scientific and technological workers. Therefore, the practical teaching process of science and engineering students has good development potential for curriculum ideological and political education.

4. CONCLUSION

General Secretary Xi Jinping pointed out: "the foundation of a university is to build virtue and cultivate people" [7]. Due to the important role of science and technology knowledge in social development and the professional characteristics of science and engineering students, it is of more social significance to carry out curriculum ideological and political education among science and engineering students in Colleges and universities in China. In the training of science and engineering students, we must not only pay attention to the education of scientific and technological knowledge, but also pay more attention to the political and ideological education of students, so as to improve the students' sense of social responsibility to serve the country and the people.

AUTHORS' CONTRIBUTIONS

Yucun Wang conducted literature retrieval and data preparation, conducted a large number of investigations and studies according to the contents of the paper, and completed the manuscript preparation as the main writer. Hongxiang Yang provided a lot of useful help for data collection and manuscript editing.

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