

Ideological and Political Teaching in Physics Experiment under the Background of New Engineering

Jinsheng Zhang, Mengting Zhang, Dong Wang, Min Tan*, Jihai Pan

Liuzhou Institute of Technology, Liuzhou 545616, China

*Correspondence Author: lzgxyzjs@163.com

Abstract: "Curriculum ideological and political" is the important measures to carry out fundamental task in colleges and universities, under the background of the new engineering, "Curriculum ideological and political" to implement the task in the physics experiment teaching, this paper starting from "Curriculum ideological and political", analyzes the physics experiment teaching into the necessity of "Curriculum ideological and political", and then to this problem is given in the physical experiment in the teaching into "Curriculum ideological and political" the important measures.

Keywords: "Curriculum ideological and political", University physics experiment, New engineering.

1. Introduction

"Curriculum ideological and political" originated when General Secretary Xi Jinping stressed at the National Conference on Ideological and Political Work in Colleges and universities in December 2016[1]: Ideological and political work in colleges and universities is related to the fundamental question of what kind of people to train, how and how to train and for whom. We should continue to take moral education as the central link, put ideological and political work throughout the whole process of education and teaching, realize the whole process and all-round education, and strive to create a new situation for the development of higher education in China. We should make good use of classroom teaching as the main channel, and other courses should keep a good channel and plant responsible fields, so that all kinds of courses and ideological and political theory courses go in the same direction, forming a synergistic effect." This important exposition of General Secretary Xi Jinping is the overall source of "curriculum thinking and politics". "Curriculum ideological and politics" means that any course teaching shoulders the responsibility of moral education. It should take moral education, fully explore the moral education elements contained in professional knowledge, realize the organic integration of general courses, professional courses and moral education, permeate moral education into the whole process of education and teaching, and help students to develop in an all-round way. With the proposal of "new engineering" and the thorough practice of modern engineering education, how to adapt the ideological and political courses to the modern "new engineering" education has also become a very important topic[2]. Therefore, it is imperative to explore the teaching content, teaching methods and assessment mode of the combination of ideological and political courses in university physics experiment courses under the guidance of the new engineering talents training concept and the graduation requirements of engineering majors.

2. Necessity

As a basic subject of science, university physics has an important influence on the cultivation of students' learning

ability and logical thinking. At the same time, physics is a highly operational subject, and the study of physics cannot be separated from physics experiment. As a compulsory general education course for science and engineering students, university physics experiment plays an important role in cultivating scientific and technological innovation talents. The purpose of experimental teaching is to fully cultivate students' real understanding and grasp the laws of physics, improve students' thinking ability, improve students' creative ability and enhance students' hands-on ability, let students really feel the mystery of the physical world, stimulate students' learning enthusiasm, and improve the quality of physics experiment teaching[3]. Therefore, to improve the ideological and political level of physics teachers; to develop the syllabus reflecting the ideological and political elements, and to summarize the ideological character, experimental safety, experimental discipline, instrument operation and data measurement, report writing, experimental hygiene, to improve the ideological consciousness of students, to strengthen the ideological and political education. In short, under the "new engineering" of physics experiment teaching, must combine the characteristics of "new engineering" itself and the advantages of "physics experiment", seeking truth from facts to detailed analysis and research, can more effectively to "course" and "ideological" organically, realize this course deep "course education" teaching reform, make the teaching reform sublimation.

3. Measure

3.1 Improve the Ideological and Political Level of the Teacher Team

To all-round, multi-angle improve students' ideological and political education, teachers not just in class, also lead by example to teach, is most of the ideological education course teacher ideological education experience, understanding of ideological and political education is not thorough, for this situation, physics experiment teacher ideological training, strengthen teachers' understanding and grasp the essence of ideological and political education[4]. At the same time, professional ideological and political teachers can also be

invited to give guidance to the university physics experiment teaching and research group, and regularly carry out ideological and political elements into the classroom exchange meetings. Through joint learning, we can constantly improve our own education and teaching level, better integrate the ideological and political elements perfectly into the university physics experiment courses, and comprehensively improve the students' ideological and moral cultivation.

3.2 Integrate Ideological and Political Elements into the Teaching Process

First of all, integrate Chinese traditional cultural elements and advanced science and technology into the course explanation, introduce the outstanding contributions of relevant ancient and modern scientists and great achievements in science and technology, so as to enhance the national pride, identity and sense of belonging of college students, and cultivate patriotism. Emphasize that science and technology is the foundation of national prosperity, innovation is the soul of national progress, and the responsibility of becoming a strong country in science and technology falls on our shoulders. Students should have a sense of historical mission, shoulder the responsibility, grasp the major needs of national development, and closely link their own development with national development. We have made remarkable achievements in many fields of science and technology.

Secondly, add the history of physics and inspirational stories of Chinese and foreign scientists, understand the methods and process of exploring the laws of physics, inspire students to think about how to spend life is meaningful, think about the positive world outlook, outlook on life and values. Inspired the students to inherit and carry forward the scientific spirit and humanistic spirit of scientists, have an international vision, set up lofty ideals and a strong sense of responsibility for national development, and become the top innovative compound talents with the feelings of family and country, who can lead the future development.

Thirdly, emphasize physical thinking, so that students in the process of experiment experience how to follow the scientific law to find and analyze problems, solve problems, cultivate students to have rigorous thinking habits, scientific attitude of seeking truth from facts, and the spirit of unremitting study, cultivate high-quality first-class talents.

Finally, let the science and technology of daily life into the university physics experiment class, and emphasize the cultivation of "practical ability", who like physics because they focus on the physics in life, and love life because they pay attention to the life containing physics. With the goal of cultivating the general education of scientific and cultural quality, students can form the concept of science and technology in serving the society and for the benefit of the people, apply what they have learned, and contribute what they have learned to the development of human beings and social progress[5].

4. Conclusion

It is the current task and challenge of every university physics

experiment teacher to firmly establish the concept of "cultivating people by virtue" and study the organic combination of knowledge imparting and value guidance, so that the university physics experiment course teaching and ideological and political education can form a synergistic effect. To meet the challenge, constantly enhance their own awareness and ability of education, to explore the course ideological and political road suitable for this course need to study hard, the courage to practice[6].

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