

Moral Education Infiltration in Chemistry Education from the Perspective of Ideological and Political Course

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Keywords: Ideological and Political Course, Chemistry Education, Moral Education, Penetration

Abstract: Colleges and Universities Mainly Carry out Ideological and Political Education for Students through the Class. Integrating Ideological and Political Work into the Curriculum Teaching Can Effectively Exert the Educating Function of Ideological and Political Education. It is Necessary for Colleges and Universities to Carry out Ideological and Political Education in the New Era to Integrate the Teaching of Professional Courses and Ideological and Political Education by Exploring the Elements of Moral Education Contained in Professional Courses. Based on Chemistry Education, This Article Briefly Discusses the Penetration of Moral Education in Chemistry Education from the Perspective of “Course Ideology and Politics”, and Discusses the Penetration Strategy of Moral Education in Chemistry Education from Different Aspects for Reference.

1. Introduction

“The fundamental task of education is to build people with virtue.” The ultimate goal of college professional course teaching and college education is to achieve talent training. The integration of ideological and political courses and professional course teaching is to cultivate both morality, integrity, and comprehensive development of professional talents feasibly [1]. As an important part of the university curriculum system, chemistry also undertakes the responsibility and mission of ideological and political education for students. In the new era of chemistry education, while imparting chemical knowledge and skills to students, it is also necessary to cultivate students' chemical thinking and chemical methods, so as to promote students to form scientific morality and spirit. Therefore, infiltrating moral education into chemistry education plays an important role in promoting the all-round development of students.

2. Cultivate Students' Scientific Spirit

Contemporary college students generally lack the qualities of hard work and perseverance, so they need to infiltrate the scientific spirit into chemistry education. In the process of teaching, teachers can tell students the tenacity, fearlessness, and rigorous spirit of pursuing knowledge and doing scientific research contained by outstanding chemists at home and abroad, so as to improve students' chemical spirit.

For example, when explaining the periodic table of chemical elements, teachers can tell students the story of how Dmitri Mendeleev persevered in studying the periodic law of chemical elements; in the teaching of atomic theory, teachers can tell the story of John Dalton who devoted his whole life to the cause of science, and was not afraid of difficulties and carried out scientific research as always; in the teaching of structural chemistry, teachers can tell students that Lu Jiaxi is not afraid of poverty and danger, and “self-saving by science” dedication.

Reasonably interspersing of these celebrity anecdotes in chemistry teaching can not only create a relaxed class atmosphere, stimulate students' interest in learning, expand students' horizons, but also help students learn about the scientific spirit and courageous personality of scientists [2]. In this way, students' dedication, hard work, pioneering spirit and perseverance are cultivated, the spiritual world of students is enriched, and lay a solid foundation for the formation of students' scientific spirit.

3. Cultivate Students' Awareness of Environmental Protection

The advancement of science and technology has promoted the development of the times, and at the same time has also affected the sustainable development of the environment to a certain extent. Environmental protection is closely related to chemistry. It is an important requirement for chemistry education to educate students in the process of chemistry teaching. Some students have insufficient awareness of environmental protection, are lack of correct ideological understanding, poor self-discipline, and comprehensive understanding of the harmfulness and severity of laboratory pollution. In the process of chemical experiments, some waste and waste liquid are usually generated. Many students dump them directly into the sewer, and discard solid waste at will. When the experiment is conducted in the fume hood, some students don't close the window of the fume hood, which causes the exhaust gas generated in the experiment to diffuse everywhere.

Students are the subject of chemistry experiments, so it is extremely important to cultivate students' awareness of environmental protection in the process of chemistry experiments. Teachers can tell students about the threats that environmental pollution and ecological damage bring to human society. Teachers can also use real cases at home and abroad to make students deeply aware of the serious harm caused by chemical pollution. For example, in the 1940s, a chemical company in the United States buried hazardous wastes such as organic pesticides in river valleys. After more than ten years, people suffered from strange diseases and baby deformities. Groundwater, soil and air were tested, and as many as 82 kinds of toxic chemicals were found [3]. Although this event has been going on for many years, we still have to use this as a warning and never let history repeat itself.

The experimental waste liquid should be reasonably stored according to the chemical properties, and should not be mixed. The experiments that will generate exhaust gas must be carried out in a fume hood. If possible, the exhaust gas can be concentrated through the exhaust gas absorption device. The solid waste is collected and treated uniformly. For the waste generated by chemical experiments, teachers can guide students to use their knowledge to design corresponding experimental schemes through the design of environmental protection questions to harmlessly treat experimental waste. This method not only realizes the practical application of learning, but also improves the students' environmental awareness and promotes the improvement of students' moral quality.

4. Cultivate Students' Values of Life

It is undeniable that chemistry not only provides many conveniences for people's life, but also brings many injuries. The large-scale use of chemical products pollutes and even poisons the soil, water and atmosphere of the world in varying degrees. The social problems caused by chemistry are largely caused by people's indifference to life, so life education is also an important penetration point of moral education in chemistry courses[4]. Explaining the phenomenon of life from the perspective of chemistry can make students feel the fragility and preciousness of life, so that students can deepen their cognition and perception of life and be able to use the knowledge and skills of chemistry to realize the protection of life.

For example, when it comes to the knowledge of chemical elements, teachers can tell students about the trace elements and macro elements that exist in the living body, as well as the content, existence form, composition and function in life. Through chemical bonds, these elements form different compounds, which are the origin of life. To put it another way, the chemical reactions involved in each life activity are up to ten million times, and the conversion and loss of energy runs through the whole process of life body development [5]. Focusing on the perspective of chemistry, people should let students feel the wonder of life, so that they can better understand life, respect life, and value life.

The purpose of developing chemistry is to provide better services for people. In chemistry education and teaching, teachers should make effective use of various social resources and information technology so that students can form a positive and healthy psychological and life

attitude in the process of learning chemistry knowledge, and finally form good values and moral quality.

5. Cultivate Students' Awareness of Standardization

Chemistry experiments are an important part of chemistry teaching. When students conduct chemical experiments, teachers need to strengthen the education of safety standardization of students. After finishing the experiment, they thoroughly clean the table and ground of the laboratory, arrange the experimental equipment neatly, and cut off the power and water. Students should be dressed properly. Sandals and shorts are not allowed to enter the laboratory in summer. Before the experiments, girls must comb their long hair, wear gloves and lab clothes, and wear masks and eye protection when necessary to enter the laboratory, which are the most basic requirements for safe laboratory operation.

Laboratory operation errors, unfamiliarity with laboratory equipment and drugs, and lack of safety protection knowledge can easily lead to laboratory safety accidents. In the process of experimental teaching, teachers need to strengthen laboratory safety education for students, and through a series of training to continuously improve students' safety awareness, so as to conduct chemical experiments in a standardized way. Teachers also need to cultivate students' global awareness and group collaboration ability in the process of training students' chemical experiment operation skills [6]. For larger experimental content, teachers can divide it into different small projects and let students take groups as a unit. Only when each group completes the corresponding experimental content can the entire experiment be truly completed. In this way, students can realize the necessity and importance of group collaboration and promote their team consciousness. Only through the unified integration of individual aspirations and team goals can the collective role and value be brought into full play. Group collaboration is not only an effective way to deal with and solve problems, but also a precious quality and ability.

6. Conclusion

Teaching and educating people is an important responsibility of teachers. In chemistry education, teachers should fully explore and effectively utilize the elements of moral education contained in chemistry teaching, organically combine ideological and political education with chemistry course teaching, and infiltrate moral education into chemistry. Throughout the course of education, students should develop good moral qualities in the process of mastering chemical knowledge and skills, laying a solid foundation for students' all-round growth and comprehensive development.

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