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Exploration and Research on Ideological and Political Education in the Course of General Chemistry for Materials Majors in Universities

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Abstract: In the context of quality education, the goals of talent cultivation have also undergone various changes, and fully utilizing the educational function of the curriculum has become an important teaching and research topic. In higher education, it is necessary to combine professional education with ideological and political education, integrate moral education into intellectual education, and build a sound education and teaching system for students' personalities, in order to cultivate students into modern talents with both professional knowledge, skills, and ideological and political literacy, and promote their comprehensive development. Based on this, this article explores and studies the ideological and political education of the course "General Chemistry" in materials majors in universities, in order to provide effective teaching ideas for teachers.

Keywords: Universities; Materials; General Chemistry; Curriculum Ideological and Political Education.

1. Introduction

As the main battlefield for carrying out educational activities, universities are an important link in delivering talents to society. According to the content proposed by the ideological and political work conference in universities, it is necessary to strengthen the ideological and political construction of courses, combine professional education with ideological and political education, and play a synergistic effect in curriculum education. As a course in the field of materials in universities, "General Chemistry" involves various scientific and technological knowledge, which contains rich elements of ideological and political education. Teachers need to follow the educational philosophy of "cultivating morality and cultivating talents", combine the knowledge in the course with ideological and political education elements, and construct an educational path for ideological and political education in the course to improve the teaching effectiveness.

2. The Current Situation of Ideological and Political Education in the Course of General Chemistry for Materials Majors in Universities

(1) Low level of learning in educational concepts

The concept determines the direction of action, and effective implementation of ideological and political education in curriculum needs to be guided by correct educational concepts. However, according to the actual situation, the concept of ideological and political education in the curriculum has not been fully implemented in schools, teachers, and students. From the perspective of schools, compared to professional course teaching, some universities attach relatively low importance to ideological and political education, and have a lower level of understanding of ideological and political education in the curriculum. The development of ideological and political education mainly focuses on ideological and political courses, and the curriculum design concept does not meet the requirements of ideological and political education in the curriculum, resulting in lower effectiveness of ideological and political construction in the curriculum; From the perspective of teachers, some teachers only view course teaching as a conceptual educational activity based on objective theories and with fixed characteristics. However, due to limited classroom teaching time, there is a certain conflict between the explanation of course knowledge and ideological and political education. Therefore, in actual teaching activities, the primary teaching goal is still to explain in class knowledge and complete teaching tasks, On the basis of sufficient teaching time, some ideological and political education content can be integrated into the teaching process, and the educational nature of course teaching and ideological and political education lacks coordination. From the perspective of students, students in universities tend to pay more attention to professional knowledge during their studies, believing that ideological and political education elements cannot effectively improve their professional knowledge level, and they tend to overlook the importance of ideological and political education in the curriculum [1].

(2) Lack of sufficient development of ideological and political elements

Clarifying the characteristics of the curriculum and the ideological and political education elements within it is a prerequisite for carrying out ideological and political education in the curriculum. Before carrying out ideological and political teaching activities in the curriculum, teachers need to first integrate the teaching content, explore the ideological and political elements contained in it, and construct a framework for ideological and political education. However, from an objective perspective, most teachers have good teaching abilities, which are mainly reflected in the teaching of professional courses and cannot fully explore the ideological and political elements in course knowledge, which is not conducive to the effective implementation of ideological and political education in courses.

3. The Implementation Strategy of Ideological and Political Education in the Course of General Chemistry for Materials Majors in Universities

(1) Explore ideological and political elements and cultivate students' patriotic spirit

Cultivating students' patriotic awareness is not only the daily education work of universities, but also the responsibility of universities as the main battlefield for talent cultivation. Carrying out patriotic ideological education is of great significance. Textbooks are the main basis for teachers to carry out teaching activities, which contain knowledge that students must learn. Teachers must thoroughly study textbooks, fully utilize relevant elements in textbook layout to explore and integrate ideological and political education elements, in order to further play the teaching auxiliary function of textbooks and cultivate students' patriotism.

Taking the introduction section of a textbook as an example, teachers can combine relevant content to introduce famous chemists and their research achievements to students' contributions to scientific development and social progress. Through multimedia technology, the stories of chemists are displayed, and on this basis, the course knowledge for this lesson is introduced. Based on the difficulties encountered by chemists in scientific research and the practical actions taken to overcome them, professional ethics and research spirit are permeated, Guide students to use outstanding figures as role models while achieving the teaching objectives in class, improve their professional literacy, and elevate the topic to the level of patriotism, integrating course knowledge, ethnic identity, and value responsibility [2].

(2) Creating Teaching Scenarios and Cultivating Students' Dialectical Thinking Ability

The course structure system of General Chemistry has a certain dialectical thinking in terms of knowledge content, and has both theoretical and practical characteristics. On the one hand, the process of theory to practice requires continuous repetition of "obtaining knowledge from practice" and "practicing based on knowledge". On the other hand, based on existing theories, new knowledge is obtained and breakthroughs are made in the practice process, providing guidance for subsequent development. Therefore, teachers can create teaching contexts for students, combine course knowledge and ideological and political education to cultivate students' dialectical thinking ability [3].

Taking the dialectical relationship between chemical atoms and molecules from scratch and from wrong to right as an example, teachers can encourage students to think about problems from a dialectical perspective, raise guesses and doubts, and promote students to think based on learning subjectivity through ideological and political education in the curriculum. Through dialectical methods, key knowledge points such as chemical concepts are made more intuitive and understandable, reducing students' learning difficulty and cultivating their interest in chemistry learning. During this process, students are able to gradually form dialectical thinking based on the summary of previous experiences, and can better clarify their thinking when encountering problems that need to be solved independently [4].

(3) Cultivate students' awareness of social security responsibility

Chemistry has extremely high requirements for students' safety awareness, and teachers can use this as a starting point to cultivate students' sense of social safety responsibility [5,6,7]. Taking experimental materials as an example, some of them are prone to danger if not properly operated. Therefore, chemistry teachers can combine teaching content in practical teaching to carry out safety education. Through safety accident cases based on different chemical principles, students can correctly understand the importance of safe operation, thereby improving their knowledge level and strengthening their safety awareness. In practice, students can consciously attach importance to taking safety precautions, standardize their own experimental operation process, and use relevant equipment and chemicals correctly to ensure the safety of practice. When understanding the experimental rules and regulations, teachers can also use case studies to stimulate students' learning enthusiasm and solve the problem of students' lack of interest in understanding oral requirements and narrative models [8].

4. Conclusion

In summary, in order for university teachers to effectively implement ideological and political education in materials related "General Chemistry" courses, they must change their own educational concepts, strengthen their learning of ideological and political education concepts, clarify the implementation points of ideological and political education in the course, conduct sufficient research on textbooks, and explore the elements of ideological and political education through scientific research A reasonable teaching method integrates curriculum education with ideological and political education, fully exerting the educational function of the curriculum, and promoting students' all-round development.

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