

Exploration of Ideological and Political Education in Curriculum of 'Environmental Engineering Microbiology from Perspective of Forging Chinese Nation Community Consciousness

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Abstract: Forging a strong sense of community for the Chinese nation is an important practice that can strengthen college students' Chinese cultural identity, and promote "Three-Whole Education" and national unity education in universities. Prioritizing curriculum-based ideological and political education is crucial for forging a strong sense of community for the Chinese nation. Environmental engineering microbiology curriculum contain rich cultural content and humanistic connotations. From perspective of forging Chinese nation community consciousness, the environmental engineering microbiology course has establish a teaching system for ideological education featuring "three major themes, four paths, and seven dimensions of goals". Practice shows that forging Chinese nation community consciousness as the perspective is helpful to accurately grasp the direction of ideological and political education in environmental engineering microbiology courses and improve the effectiveness of ideology and politics education in curriculum of environmental engineering microbiology.

1. Introduction

Forging a strong sense of community of the Chinese nation is the core content of ideological and political education for contemporary college students, and it is also the main line of ideological and political implementation in college curriculum[1]. At present, most of the ideological and political research on the curriculum in colleges and universities focuses on a relatively broad perspective, combining professional knowledge education with ideological and political education, and there is a lack of core content to discuss the ideological and political implementation of the curriculum from the perspective of forging the sense of community of the Chinese nation[2]. At present, the ideological and political curriculum of colleges and universities has not fully implemented the main line of forging the idea of the Chinese national community, which leads to poor implementation of the ideological and political implementation of the curriculum, which in turn affects the effective improvement of the overall quality of the ideological and political curriculum in colleges and

universities. Therefore, the course team based on the practice of building a provincial first-class course of environmental engineering microbiology, and exploring several important issues regarding how the ideological education in environmental engineering microbiology courses can truly implement the main thread of consolidating the sense of the Chinese nation community. The focus is on exploring the core content and key paths of the ideological and political education in the environmental engineering microbiology course from perspective of forging Chinese nation community consciousness. The goal is to achieve an organic integration of the education on strengthening the sense of the Chinese nation community and the ideological and political education in environmental engineering microbiology courses [3].

Curriculum ideology and politics are to combine professional knowledge education with ideological and political education, and integrate students' value shaping into knowledge impartation and ability training. The sense of community of the Chinese nation is the foundation of national unity, the foundation of national unity, and the soul of spiritual strength [4]. Forging a strong sense of community of the Chinese nation is the core of the ideological and political education of contemporary college students. From the perspective of forging the sense of community of the Chinese nation, the fundamental task of the ideological and political education in the Environmental Engineering Microbiology course is conduct education on the concept of the Chinese nation community among students, and to cultivate and strengthen their sense of the Chinese nation community[5]. Based on this, the ideological and political content of the Environmental Engineering Microbiology curriculum from the perspective of forging the consciousness of the Chinese national community should focus on solving one problems: what is the core content of the ideological and political curriculum of the Environmental Engineering Microbiology curriculum. The establishment of the core content will point out the direction for the smooth implementation of the ideological and political education of Environmental Engineering Microbiology courses from the perspective of forging the ideology of the Chinese national community.

2. The ideological and political teaching concept of the "Environmental Engineering Microbiology" course

"Environmental Engineering Microbiology" is one of the core courses of environmental engineering majors, and it is also a compulsory course for cultivating outstanding environmental engineers. Through the study of this course, on the one hand, students are familiar with the basic knowledge of microorganisms and master the role of microorganisms in the environment; On the other hand, it cultivates students to be good at using the basic knowledge of microbiology to solve complex environmental engineering problems, as well as the ideological and political quality requirements required in this process, which is also the key to the cultivation of excellent environmental engineers.

According to the aforementioned ideological and political quality requirements, the teaching objectives of the "Environmental Engineering Microbiology" course are divided into three categories: knowledge objectives, ability objectives and quality objectives. The guiding principles are the national ecological civilization construction, regional development needs, and the training objectives of this major. At the same time, the actual situation of students, the course content, and industry demands are also taken into consideration. The teachers should strive to integrate the cultivation of scientific literacy into the lessons, such as the principle of fact-based thinking, dialectical thinking, and the spirit of scientific exploration and innovation when teaching the basic knowledge of environmental microorganisms. And teachers should integrate environmental awareness, sustainable development concepts, engineering ethics, professional ethics, dedication,

teamwork and collaboration into the cultivation of students' professional qualities when teaching students to apply microbiology knowledge to solve complex environmental engineering problems.

3. Ideological and political teaching design of "environmental engineering microbiology" course

The course teaching team has established a course ideological and political education teaching system of "three major themes, four paths and seven dimensions of goals". And this system is centered around students, and is based on teaching concepts, teaching objectives and teaching practices. This ideological and political education system is based on three major ideological and political themes (educating the heart, educating the details, educating the wisdom), and deeply explores ideological and political elements through four paths (national ecological civilization construction policies, industry cutting-edge technologies, technological development and transformation, application innovation practices). Achieving the realization of the seven dimensions of ideological and political education goals, by integrating ideological and political cases into the curriculum system. Achieving the realization of the seven dimensions of ideological and political education goals, by integrating ideological and political cases into the curriculum system. Its specific design concept is shown in Figure 1.



Figure 1 Pedagogical Design Concept of Ideological and Political Education.

3.1 Educate people in their hearts and cultivate the feelings of family and country

The feeling of family and country is the affectionate love shown for one's own country and the people, the ideal pursuit of the country's prosperity and the happiness of the people, and a kind of courage of "self-cultivation, family harmony, governance of the country, and peace of the world" [6]. In the curriculum practice, the current situation and policies of the construction of national ecological civilization, the development process of cutting-edge technologies in the domestic industry, and the love of the party and the patriotic deeds of relevant researchers are mainly used to enlighten and cultivate students' patriotism, responsibility, sense of superiority of the system, cultural identity and other dimensions of family and country feelings.

3.2 Educate people and improve professional quality

Professionalism includes hard professionalism and soft professionalism. Hard professional quality refers to a person's professional knowledge, professional theory, professional skills, etc.; Soft professionalism refers to a person's professional spirit, such as dedication, unity and cooperation. Therefore, the cultivation and improvement of the professional qualities of environmental engineers require the basic hard professional qualities that include professional knowledge and skills in the application of microorganisms in the environment. At the same time, it is also necessary to promptly grasp the research trends in the fields of cutting-edge microbiology technologies, technological development and changes, as well as application innovation practices.

The aim is to cultivate students' soft professional qualities such as dedication, teamwork ability, environmental awareness, sustainable development concept, engineering ethics and professional ethics.

3.3 Educate people and help improve scientific literacy

The composition of scientific literacy includes knowledge, ability, morality, etc. Knowledge is the premise of scientific literacy, including basic microbial science knowledge and understanding of cutting-edge science and technology, and ability includes scientific ability and application ability, and morality is scientific morality and scientific spirit. In the teaching process, it is mainly excavated through the path of cutting-edge technology in the industry, technological development and change, and applied innovation practice, so as to realize the introduction of cases, think and reach wisdom, and achieve lofty wisdom, so as to help improve scientific literacy such as scientific exploration, technological innovation, seeking truth from facts, and dialectical thinking.

4. The implementation methods and paths of the ideological and political course of "Environmental Engineering Microbiology"

In order to achieve the relevant goals of curriculum ideology and politics, the implementation of curriculum ideology and politics can be combined with online and offline teaching methods, and the teaching modes such as pre-class preparation, in-class inquiry, and after-class extension can be carried out, such as raising ideological and political questions in the pre-class preview video, allowing students to study and think independently, find problems and consult materials, and achieve ideological and political goals in self-study; In class, ideological and political case sharing or the introduction of ideological and political hot topics can be carried out, and the realization of ideological and political goals can be achieved in the process of inspiring thinking, brainstorming, discussion and sharing; After class, students can be guided to improve their literacy by incorporating ideological and political content into after-school homework, major assignments, assessments, and innovative practices, so that students can achieve the ideological and political goals of the curriculum in an interesting, useful, methodical, and warm teaching process as much as possible.

Based on the above implementation methods, ideological and political cases have been integrated into the teaching content of the environmental engineering microbiology courses. These ideological and political cases include the current situation of national ecological civilization construction, stories of famous people, new biological treatment technologies, practical teaching cases, and innovative practice processes, etc. The textbook used in this course is "Environmental Engineering Microbiology" (4th edition) edited by Zhou Qunying and Wang Shifen, which is mainly divided into 3 modules, including overview of microorganisms, basic microbiology, and the role of microorganisms in the environment, with a total of 11 chapters.

5. Ideological and political implementation results and problems of the "environmental engineering microbiology" course

In order to achieve the effect of continuously deepening ideological and political education in continuous improvement, a questionnaire survey is used after the course to investigate and analyze the learning effect of the course ideological and political and the achievement of the course goals, so as to clarify the ideological and political learning effect and existing problems of students in the teaching process, formulate a targeted continuous improvement plan for the course, and carry out continuous improvement in the next round of teaching process. The survey results show that among

the seven ideological and political dimensions of the "Environmental Engineering Microbiology" course, environmental awareness and sustainable development concepts are the most easily understood and familiarized by students (85%). the second is dedication and unity and cooperation (60%), which fully shows that the professional quality of students has been effectively improved; patriotism and responsibility accounted for 57%, indicating that students' feelings for home and country were deeply cultivated; The achievement rate of scientific exploration and technological innovation is 52%, indicating that the implementation of ideological and political curriculum has a certain role in promoting the cultivation of students' scientific literacy, and is conducive to the cultivation of outstanding environmental engineers who love the party and serve the country, dedicate themselves to their work, have outstanding technological innovation ability, and are good at solving complex environmental engineering problems. However, in the process of achieving the goals of each dimension of the curriculum, the achievement rate of some dimensions needs to be further improved, such as the sense of institutional superiority and cultural identity (40%), engineering ethics and professional ethics (46%). The achievement rate of seeking truth from facts and dialectical thinking (40%), as well as scientific exploration and technological innovation, should also be further improved, and practical guidance should be further strengthened on the basis of ideological and political cases, such as strengthening subject competitions and college students. Experiments on innovative projects and on-site observation of new technologies for the treatment of "three wastes" stimulate students' innovation potential and promote the improvement of scientific literacy achievement rate.

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