ISSN: 2637-6067 DOI: 10.6918/IJOSSER.202210_5(10).0008

Exploration and Practice of Ideological and Political Teaching Reform in the Course of "Water Pollution Treatment Technology"

Yue Yang and Chengli Guan

Yangjiang Polytechnic, Yangjiang, 529500, China

Abstract

Curriculum ideology and politics refer to the study of various courses and ideological and political education in the same direction to form a synergistic effect. At present, major colleges and universities encourage teachers to integrate ideological and political education into the classroom of theoretical courses. However, due to the influence of the teaching methods and curriculum design of experimental courses, few teachers introduce ideological and political education in the teaching process of experimental courses. It is worth pondering how to effectively introduce the ideological and political content of the course into the experimental course. Taking "water pollution treatment technology" as an example, the article introduces the ideological and political content of the course into the experimental project in this course and provides a reference for the follow-up ideological and political education related to the experimental course.

Keywords

Water pollution treatment technology; Experimental course; Course ideology and politics; Water pollution.

1. Introduction

"Water pollution treatment technology" is one of the core courses of environmental engineering. This article mainly discusses the importance of the ideological and political construction of the course "Water Pollution Treatment Technology" to speed up the construction of China's ecological civilization and promote green development, and takes "Water Pollution Treatment Technology" as the carrier to explore the construction of an environment under the guidance of "Ecological Civilization Construction Thought" The ideological and political teaching system of engineering courses explores the problems and countermeasures in the process of ideological and political construction of the course.

As a compulsory course for environmental engineering majors in colleges and universities, water pollution treatment technology includes teaching modules such as theory, experiment, and practice design. The main teaching content of this course is the basic principle of water pollution, water pollution control technology, and the application of engineering principles to solve water pollution. Related issues, etc. Incorporating the content of ideological and political education into each module of the course is an effective way to improve the quality of the course and accomplish the ideological and political goals of teaching. This paper deeply excavates the ideological and political elements contained in the course of water pollution treatment technology and clarifies the necessity and feasibility of developing the course ideology and politics in the course of water pollution treatment technology[1].

Water pollution treatment technology is an important compulsory course in environmental engineering. It includes teaching objectives in both professional and moral education. It is of great significance to the cultivation of students' knowledge and skills and the shaping of values. This course is closely related to the ideological and political elements such as national strategies, policies, and the fine traditions of the Chinese nation. Therefore, this paper will fully explore

ISSN: 2637-6067 DOI: 10.6918/IJOSSER.202210_5(10).0008

the ideological and political education resources covered in this professional course and integrate them into all aspects of the course education[2]. This paper explores the necessity and feasibility of carrying out ideological and political courses in water pollution treatment technology courses by excavating the ideological and political elements contained in water pollution treatment technology courses; Explore how to truly integrate ideological and political elements into the course of water pollution treatment technology, so that the course teaching is more in line with the requirements of educating people in the new era, in order to provide a useful reference for the realization of the teaching reform of the course in the new era[3].

2. Factor of Ideological and Political Teaching in the Course of Water Pollution Treatment Technology

2.1. The Necessity of Water Pollution Treatment Technology Courses

The course on water pollution treatment technology mainly includes teaching modules such as basic theories of sewage treatment, main experimental methods, and process design of sewage treatment plants. Through the study of this course, students can design reasonable treatment processes for common sewage problems and cultivate students ability to analyze and solve practical engineering problems[4]. The fundamental task and goal of teaching the course of water pollution treatment technology are not only to enable students to master and apply relevant knowledge of water pollution control but also to enhance the ideals, beliefs, and feelings of home and country of college students so that students can develop a concern for national affairs. And the good behavior and habits of national policies can be willing to devote themselves to the cause of socialist modernization from the heart. However, in the current teaching process of water pollution treatment technology courses, most of the emphasis is placed on the learning of basic theory and technical knowledge and the training of relevant experimental skills, and to a certain extent, the integration of patriotic education and ideological and political education is ignored. Resulting in the lack of moral education for college students in the process of theoretical and technical knowledge learning. Many students think that they only need to master the knowledge and skills when they study professional courses, ignoring the improvement of their ideological and political literacy. Therefore, it is necessary to integrate ideological and political elements into this course to cultivate students' knowledge, skills, and ideological and political literacy[5].

2.2. Feasibility of Water Pollution Treatment Technology Courses

Water pollution treatment technology is a required course for environmental engineering majors, and it is closely related to ideological and political education[6]. The course includes environmental protection concepts and skills with strong technical theory, as well as implicit ideological and political education content such as patriotic education, which can have a positive impact on the thoughts and values of college students. In the teaching design process of water pollution treatment technology courses, professional teachers can dig deep into ideological and political elements, carefully organize and design the teaching process, and subtly integrate and infiltrate ideological and political elements into all aspects of teaching so as to realize the ideological and political elements of college students. Educate. Course ideology and politics have positive significance for the growth and future development of contemporary environmental engineering college students. Therefore, it is feasible to carry out ideological and political teaching of water pollution treatment technology courses.

2.3. Ideology and Politics of Water Pollution Treatment Technology Course

Environmental protection has become a basic national policy of China. Many new ideas, new viewpoints, and new requirements have been put forward for building a beautiful China. The main task of the course of water pollution treatment technology is to master the basic

ISSN: 2637-6067 DOI: 10.6918/IJOSSER.202210_5(10).0008

knowledge of water pollution prevention and control technology, and the basic theories and methods of engineering design and operation management, in order to improve students' professional ability, professional spirit, and sense of social responsibility, and inspire students to serve the country with science and technology. Feelings. So the first thing to do is to let students know what the course, what the unit is about, and what problems it solves. If there is no goal, there is no direction. The beginning of the online course is the "Course Guide," which introduces the frontier technologies of water treatment, hot issues of water pollution, the current national strategies and technical policies for water pollution prevention and control, as well as the learning objectives and requirements of this course, and organizes students to conduct water pollution and environmental protection activities. Discussion of hot issues. While clarifying the purpose of students' learning courses enhances the sense of social responsibility as an environmental professional and also enhances students' interest in learning professional courses. In the study of subsequent units, through case analysis of different technology application projects for various water treatment methods, combined with the battle of water pollution prevention and control, the protection of the Yangtze River, the restoration of black and odorous water bodies in cities, the treatment of rivers and lakes, and advanced sewage treatment. The study of technical policy deepens the understanding of theoretical knowledge and the application ability of water treatment technology and clarifies the learning objectives of the course.see figure 1.

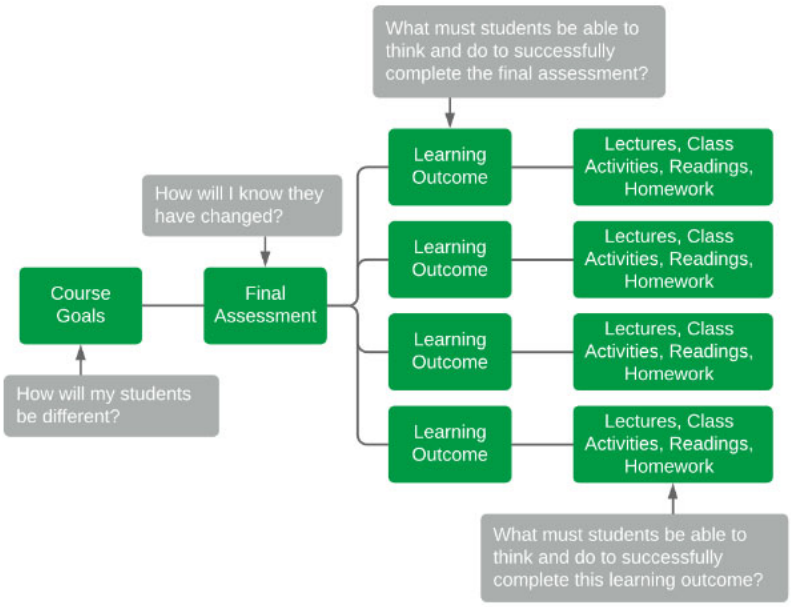

Figure 1. Environmental Engineering Course Design Process

3. Reflection and Summary of Ideological and Political Teaching in the Course of Water Pollution Treatment Technology

Through the course teaching, students can understand and master the basic knowledge points of the course, including the basic principles and design methods of sewage treatment, and improve their professional skills; students can solve practical problems by using the basic knowledge of sewage treatment, design relevant sewage treatment plants, Cultivate students' innovative awareness and problem-solving ability; cultivate students' excellent professional qualities such as hard work, modesty, excellence and craftsmanship in the teaching of experiments and practice courses. In addition, in classroom teaching, teachers integrate ideological and political elements such as protecting the ecological environment, patriotism, and rural revitalization into the classroom. Through teacher lectures and multimedia

ISSN: 2637-6067 DOI: 10.6918/IJOSSER.202210_5(10).0008

presentations, students are attracted to social hotspots and national policies and guided them to become Aspiring young people who are beneficial to the development of the country and society. The integration of ideological and political elements into the teaching design of environmental engineering courses can quietly affect students' ideological and behavioral norms so that students can realize the value of the course and the meaning of learning in the process of learning the professional course of water pollution treatment technology, and realize the Comprehensive training of professional skills and ideological quality.

3.1. Establish A Teaching Effect-oriented Incentive Mechanism

Through the improvement of the evaluation system, efforts should be made to give full play to the role of curriculum ideology and politics in the construction of water pollution treatment technology courses and guide teachers to focus on the innovation and development of curriculum ideology and politics, and the latest theoretical research results of curriculum ideological and political education and teaching reform in water pollution treatment technology courses. Practical application of topics such as application in teaching. Establish a system standard for the "double evaluation" of the teaching effect of water pollution treatment technology and the ideological and political teaching effect of the course, and increase the proportion of the evaluation of the ideological and political education effect of the course. Take the professional knowledge of water pollution prevention and control as the carrier to strengthen the ideological and political education of students, reverse the situation that the professional courses emphasize teaching and neglect ideological and political education, and give full play to the key role of classroom education in personnel training. In the water pollution treatment technology teaching quality evaluation system, students' ideological and political course performance and learning performance are included in the professional teaching effectiveness evaluation system, not only to examine students' recognition of teachers' professional teaching but also to examine students' thoughts on teaching The degree of recognition of the value of political elements. During the implementation of the ideological and political construction of the environmental engineering professional course, the water pollution treatment technology of the backbone course is taken as the starting point, and the effectiveness evaluation is carried out for the education function and moral education effect of the course. Important basis, provide important reference basis.

3.2. Establish A Positive Curriculum Learning Mechanism

The content of the experiment is fully prepared, and the students can successfully complete the experimental tasks in the classroom; the teachers participate in the whole process of the experiment, guide and standardize the operation of the students, answer the questions of the students, and ensure the effectiveness of the experiment. During the inspection process, the experimental video of the standardized operation of the students can also be filmed and uploaded to the platform. After the experiment, the students can watch it at any time to solve their doubts about the operation; (3) After the experiment, the students based on the practical operation and experiment The results analyzed and discussed the questions raised by the teachers. On this basis, the teachers made summaries to guide the students to give the correct answers, reflecting the educational philosophy of "teacher-led, student-led."

3.3. Establish A Positive After-school Analysis of the Curriculum

In the after-class analysis, students need to complete two parts of work: sorting out experimental data, submitting experimental results online, and completing online after-class practice questions; in order to avoid some students who do not have good experimental habits without original data after the experiment, plagiarism The phenomenon reported by other students in the experiment. Students are required to take pictures of the experimental devices built during the experiment, the observed experimental phenomena, and the experimental data

ISSN: 2637-6067 DOI: 10.6918/IJOSSER.202210_5(10).0008

obtained and submit them online after the experiment is completed. Students are urged to complete the experimental operation by themselves and improve the effectiveness of experimental teaching; according to their own experimental results. With the guidance of teachers, reflect and summarize the entire experimental process, conduct self-evaluation on the online and offline learning process, and improve their own learning ability and experimental operation ability.

3.4. After-class Teaching Assessment of the Course

The traditional organic experiment evaluation is mainly based on experimental results. This evaluation method will mislead students to deliberately pursue experimental data that conforms to the theoretical results and lose the scientific exploration of the experiment and even obtain high scores by tampering with the experimental data, which violates the rigorous training of students. The purpose of teaching scientific literacy and inquiry skills. The application of "online and offline" blended teaching has changed this single assessment method. In the performance evaluation, the content and evaluation criteria of the evaluation dimension are clearly defined. When students conduct pre-class preview online, they can obtain corresponding scores after completing the study and testing as required; in the student experiment, they need to operate the experiment according to the requirements of the teacher so that when the experiment ends, the experiment records can be submitted online in real-time with guaranteed quality and quantity. Teachers grade according to the set scoring rules, set the weight of the two reasons, and comprehensively give students organic experimental results. This evaluation mechanism is more objective and scientific and can improve students' enthusiasm for participation.

The ideological and political integration of the course requires teachers to think deeply about the teaching objectives, ideological and political materials, teaching process design, and summarize the ideological and political goals of the course before class. Starting from the knowledge point itself, finding the fusion point is the key. Through the design of the ideological and political integration teaching content of the course, teachers can effectively integrate political literacy, social responsibility, ideological character, and professional literacy in the course teaching. Inspirational and value-led goals.see figure 2.

Figure 2. Ideological and Political Course Learning Process

3.5. Reflection and Summary of Ideological and Political Teaching in the Course of Water Pollution Treatment Technology

Through the course teaching, students can understand and master the basic knowledge points of the course, including the basic principles and design methods of sewage treatment, and

ISSN: 2637-6067 DOI: 10.6918/IJOSSER.202210_5(10).0008

improve their professional skills; students can solve practical problems by using the basic knowledge of sewage treatment, design relevant sewage treatment plants, Cultivate students' innovative awareness and problem-solving ability; cultivate students' excellent professional qualities such as hard work, modesty, excellence and craftsmanship in the teaching of experiments and practice courses. In classroom teaching, teachers integrate ideological and political elements such as protecting the ecological environment, patriotism, and rural revitalization into the classroom. Through teacher lectures and multimedia presentations, students are attracted to social hotspots and national policies and guided them to become beneficial Aspiring youth for national and social development. The integration of ideological and political elements into the teaching design of environmental engineering courses can quietly affect students' ideological and behavioral norms so that students can realize the value of the course and the meaning of learning in the process of learning the professional course of water pollution treatment technology, and realize the Comprehensive training of professional skills and ideological quality

4. Conclusion

In the ideological and political construction of the curriculum, teachers are the key. Different disciplines, different majors, and different courses have their own unique teaching content and methods. In the process of ideological and political integration of the curriculum, teachers should deeply explore the ideological and political elements of the curriculum and carry out the gradient, hierarchical and differentiated design and arrangement according to student's ability to understand knowledge so as to ensure the ideological and political relationship between the curriculum and professional knowledge. Natural transitions and organic blends.

Acknowledgments

Education Reform Project of Yangjiang Polytechnic (yz2021kcsz015; 2022JG021) and Education Reform Project of China Light Industry Federation (QGJY2021049).

References

[1] Cui Min, Yin Jin, Zhou Chunhong. Exploration and Practice of Ideological and Political Teaching in Environmental Engineering Experimental Course.. Guangdong Chemical Industry, Vol. 48 (2021) No. 4, p.314-314,294.

[2] Luo Lixuan. Environmental pollution and economic development in China.. Economic Outlook of the Bohai Rim,Vol. 24 (2020) No. 3, p21-25.

[3] Liu Jianwei. Construction of practical teaching system for environmental engineering specialty. China Modern Educational Equipment,Vol. 14 (2021) No. 05, p.31-35.

[4] Wang Chun, Yuan Ziqian, Sun Yingxue, etc. Research on the current situation and reform of water pollution treatment technology courses.. Guangdong Chemical Industry,Vol. 26 (2021) No. 5, p.25-29.

[5] Wu Zeguang, Chen Xiao, Xu Zhongjian, etc. Reform and exploration of talent training mode for environmental engineering professionals.. Henan Chemical IndustryVol. 28 (2021) No. 06, p.45-46.

[6] Wu Xiangyang, Liu Hong, Li Qian. Environmental engineering professional curriculum construction.. Education and OccupationVol. 08 (2021) No. 06, p125-128.