

## Practice and Exploration of Curriculum Ideological and Political in Wastewater Treatment Technology

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### Abstract

"Sewage Treatment Technology" is the core course of water supply and drainage engineering technology. It aims to cultivate sewage and wastewater treatment professionals who "love the motherland, loyalty to the cause, hard work, and selfless dedication". In response to the call for the national curriculum ideological and political reform, the teaching team took the latest theoretical and practical results of Xi Jinping's ecological civilization thought as the starting point, and explored the curriculum ideological and political elements from seven dimensions, forming a "four-lead" curriculum ideological and political structure and a "triple joint". Type "course death syndrome teaching model. In the course of course teaching, information-based teaching tools are used flexibly, combined with diversified teaching methods, to comprehensively improve students' professional quality and ideological level, and achieve the goal of efficiently cultivating high-quality talents in the sewage treatment industry.

### Keywords

Vocational Education; Curriculum Ideology and Politics; Sewage Treatment; Education Mode Introduction.

### 1. Introduction

Curriculum ideological and political education is based on the educational concept of establishing morality as the central link. By constructing a three-dimensional education pattern of full-staff education, full-course education, and all-round education, the ideological and political construction is integrated into the professional curriculum teaching. In order to achieve the effect that professional education and ideological construction complement each other and go hand in hand. In May 2020, the Ministry of Education issued the "Guiding Outline for Curriculum Ideological and Political Construction in Higher Education Institutions", which pointed out: "The effectiveness of Lide Shuren is the fundamental standard for testing all work in colleges and universities." Knowledge transfer and ability training are integrated and inseparable." Responding to the call of the country, the organic combination of curriculum ideology and professional curriculum teaching is the top priority of the current higher vocational education reform.

"Sewage Treatment Technology" is the core course of water supply and drainage engineering technology in higher vocational colleges. It aims to cultivate sewage and wastewater treatment professionals who "love the motherland, loyal to the cause, hard work, and selfless dedication". In order to thoroughly implement the requirements of the General Secretary's "Several Opinions on Deepening the Reform and Innovation of Ideological and Political Theory Courses in New Era Schools" and "Guidelines for the Ideological and Political Construction of Higher Education Curriculum" and other document requirements, Xi Jinping's new era of socialism with Chinese characteristics in the new era is integrated into the curriculum teaching According to the professional talent training plan, the teaching team carried out the overall curriculum ideological and political design, reorganized the curriculum structure and content, built the

"post-course match certificate" education model, and formulated the curriculum ideological and political education evaluation system. The specific methods are as follows.

## 2. Establish the Ideological and Political Education Goals

Based on vocational education and teaching experience and analysis of academic conditions, it can be seen that the students targeted by this course have the characteristics of active thinking, active interaction, and strong hands-on ability, and they are more active in response to specific cases and practical operations. Taking students as the main body of teaching work, the course teaching goals are drawn up as follows based on the concept of three-dimensional goals.

Knowledge and skills goals, students understand the tasks and purposes of sewage treatment, master the basic principles and technological processes of the three physical, chemical, and biological treatment methods of sewage treatment, and understand the source and classification of sludge in sewage treatment and the properties of sludge, Master the sludge treatment methods and processes.

Process and method objectives, students master the physical and chemical principles of sewage treatment through various activities such as scenario simulation, experimental operation, comprehensive training, skill competition, social practice, etc., are familiar with the workflow of sewage treatment posts, and exercise their judgment and ability to solve practical problems. , In actual work, the appropriate handling method can be selected according to local conditions, the failure of the handling process can be eliminated in time, and the professionalism can meet the job requirements.

Emotional attitudes and values goals, students build professional pride and position awareness in the course ideological and political teaching, cultivate a spirit of unity and cooperation and innovative thinking, cultivate rigorous and practical study habits and a working attitude of excellence, and then establish a correct world outlook and outlook on life, Values, improve national pride, establish a pragmatic, rigorous and down-to-earth craftsman spirit and abide by the norms of professional ethics.

## 3. Thoughts on the Reform of Ideological and Political Teaching in the Course of "Sewage Treatment Technology"

The curriculum reforms from three aspects: digging deep into the ideological and political elements, building the ideological and political teachers of the curriculum, constructing the "triple and triple" curriculum ideological and political teaching mode, and introducing information teaching. The development of the times.

Taking the latest theories and practical results of the ecological civilization thought in the new era as the starting point, focusing on the green development concept of "green water and green mountains are golden mountains and silver mountains", from a profound historical view, a scientific view of nature, a basic view of people's livelihood, an overall system view, and a serious rule of law Exploring the curriculum ideological and political elements in seven dimensions, namely, the concept of national action, and the global perspective of win-win, and establishing a case library for curriculum ideological and political teaching. The course relies on the provincial teaching resource bank of this major, guided by teaching cases, comprehensively carries out ideological and political education, strengthens students' ideals and beliefs, and focuses on six aspects including professional skills, expression and communication, professional ethics, collaborative innovation, family and country feelings, and sustainable development. The whole process of teaching and educating people is carried out to form a "four-lead" curriculum ideological and political model of knowledge guidance, ability guidance, skill guidance, ideological and political guidance and morality.

## 4. Practice of Ideological and Political Teaching Reform in the Course of "Sewage Treatment Technology"

### 4.1. Forming a Team of Ideological and Political Teachers

The curriculum has formed an ideological and political community of "industry-enterprise-university". The ideological and political teaching content of the curriculum is deepened through the example spirit of industry experts, and the spirit of enterprise craftsman inspires morality, professional teachers guide solid knowledge, and ideological and political teachers cultivate benevolence. The heart, with the dedication spirit of poverty alleviation cadres, jointly formed a curriculum ideological and political team with strong political quality and high ideological and political education. Through collective lesson preparation, the ideological and political elements and value factors contained in the curriculum are refined, the connotation of moral education is deeply explored, the function of ideological and political education is developed, and the humanistic atmosphere of teaching is increased. Let professional education integrate ideological and political elements organically, and promote the reform of all-round, full-process, and all-staff ideological and political education mode, to achieve the effect of educating people with spring breeze and rain and moistening things silently.

### 4.2. Ideological and Political Teaching Case Library

Guided by the latest theories and thoughts of Xi Jinping's thoughts on ecological civilization, combined with talent training programs and curriculum standards, according to the teaching content and training skills of each project or task, from professional skills, expression of communication, professional ethics, collaborative innovation, family and country feelings Exploring relevant ideological and political elements from various perspectives, such as sustainable development, and finding the entry point of ideological and political elements, and integrating them into curriculum teaching. The teaching team collected various sewage treatment-related cases from all over the country, and focused on introducing relevant local cases in Guangxi, to make students feel close, and closely integrate professional knowledge with real life, so that the concept of ecological civilization can be deeply rooted in the hearts of the people.

### 4.3. Curriculum Ideological and Political Teaching Methods

The reformed course chooses different teaching methods according to the different emphasis of the content of the class, and uses flexible and changeable classroom forms to guide students' active thinking and exercise their comprehensive qualities. As shown in Table 1.

For the theory-oriented class, in addition to the traditional teaching method and group cooperative learning method, the course introduces the role substitution method, brainstorming method and other teaching methods, allowing students to take the role in the actual sewage treatment case and discuss the treatment in various situations Method, encourage students to diverge thinking, exercise their ability to collect information and analyze problems.

For the operation-oriented class, the course allows students to discuss and operate experiments in groups to ensure that each student can operate by hand, combine hands and eyes, and get sufficient practical training.

For comprehensive practical class hours, the curriculum combines diversified classroom teaching methods such as simulation method, role-playing method, questionnaire survey method, etc., to simulate the actual working environment, combined with school-enterprise cooperation practice training links, to cultivate students' professional quality in an all-round way.

#### **4.4. Constructing the Ideological and Political Teaching Mode of the "Three-In-One and Three-In-One" Course**

Combining academic analysis, relying on the online and offline hybrid teaching mode, construct the "triple and triple" curriculum ideological and political teaching mode: create the first classroom of the whole system "knowledge core", expand the second classroom of the whole system "skills practice", and extend the whole system The third classroom of Fangfang "Internet + Curriculum Ideology and Politics" emphasizes ability training and takes into account the differences of students to realize the integration of curriculum Ideology and Politics through the three classrooms. Through the rigorous and scientific learning of the knowledge system, the professional spiritualization of the acquisition of ability and quality, the patriotic sentiment of the cultivation of situational quality, and the extension and continuity of the development of lifelong learning, it is empowered to activate the ideological and political goals and penetrate the major and difficult points of teaching. The "triple and triple" ideological and political classrooms are integrated and integrated, and the mechanism of all-staff education, all-process education, and all-round education is improved.

#### **4.5. Combination of "Multi-dimensional" Extended Evaluation System**

Based on the three classroom dimensions, it extends from student learning effects to skills application, social responsibility, collectivism, and family and country feelings, and the evaluation chain extends to pre-class, during and after class, and establishes a reflection of students' professional level and ideological and political A comprehensive evaluation system of "practical, technical, and moral" literacy, to further diagnose and improve curriculum ideological and political teaching strategies, design, and implementation.

#### **4.6. Make Full Use of the Integration of New Media and Information Teaching**

The curriculum flexibly uses the vocational education cloud platform, relies on the provincial teaching resource library of this major, and combines multimedia tools such as micro-classes, screen projections, mind maps, Tencent conferences, Tencent classrooms, etc. to realize the informationized teaching process.

Before class, teachers post learning tasks and upload informatized curriculum resources. Students complete learning tasks. Teachers check students' completion to grasp the learning situation, and predict the important and difficult points of teaching. The flipped classroom mode is implemented in the class, teaching in smart multimedia classrooms, group cooperation and independent learning, lectures and exercises and assessments in the classroom, demonstrations of principles through animation, video explanations of difficult points, teacher demonstration operations, and teaching as an integrated practice Operating skills, online and offline mixed teaching to solve difficult problems. After class, through the online learning test data analysis of the vocational education cloud platform, data mining and analysis of the teaching results are carried out to continuously improve the teaching. Information-based teaching methods run through the entire teaching process, enriching teaching methods, and greatly improving teaching effects.

### **5. Teaching Reform Results of "Sewage Treatment Technology" based on Curriculum Ideology**

Students learn with aspirations and have strong professional skills and practice. Taking "promoting the spirit of craftsmanship and devoting to the national water environmental protection cause" as the ideological and political element, create the first classroom of "knowledge core", expand the second classroom of "skills practice", extend the Internet + course ideological and political third classroom, and learn through the knowledge system The

rigorous and scientific, professional spiritualization of ability and quality acquisition, the patriotic sentiment of situational quality training, the extension and continuity of lifelong learning and development, empower and activate ideological and political goals. The formation of rich curriculum ideological and political case resources has well solved the problem of how to integrate curriculum ideological and political with majors, and moisten things silently. Starting from the actual situation of the students, the curriculum ideological and political teaching evaluation model is created to stimulate learning motivation. Through teamwork and competition, students can obtain positive emotional experience, and efficiently cultivate high-quality technical and technical personnel for sewage treatment. While accomplishing ideological and political goals, the frequency of students' independent learning, classroom participation, and professional identity have been significantly improved. Students use practical skills to arouse professionalism and promote in-depth learning. The passing rate of the 1+X sewage treatment skill level certificate examination reached 95%, ranking among the best in the whole district, and was included in the typical case of provincial 1+X certificate work. Teachers and students apply what they have learned, and the craftsman spirit has a deep understanding. Curriculum ideological and political teaching models form typical cases that can be replicated and promoted. Taking "promoting the spirit of craftsmanship and devoting to the national water environmental protection cause" as the ideological and political element, cultivate high-quality technical and technical talents for sewage treatment: students highlight the "craftsmanship spirit" in the district-level vocational college water treatment skill competition, and a total of various innovations and entrepreneurship, In the social practice competition, he won 5 national honors, 6 provincial honors, and 11 school honors. The patriotism and the spirit of craftsmanship that serve "ecological construction, green water and green mountains, and rural revitalization" are introduced into the curriculum. Teachers and students have investigated, designed and installed water quality improvement systems in 12 locations in the Dashi mountainous area with water difficulties, serving more than 2,000 villagers. It has made practical contributions to poverty alleviation and rural revitalization. It was selected as the second national university "two studies and one work" branch to showcase the characteristic cases of the faculty and party branch, and was awarded the first research study and practical teaching achievement of the second Guangxi ideological and political theory course. Prize. And won the National Silver Award in the 2020 Volunteer Service Project Competition.

The reputation of the courses has been enhanced, and the corporate society has a high recognition. Carry out the "Ideological and Political Work Quality Improvement Project Implementation Outline", and feedback the teaching with the practical results of the "professional-ideological and political" curriculum (skills competition, innovation and entrepreneurship, voluntary services, etc.). According to feedback from the company, students have a strong sense of professional identity and professional confidence, and the process development after class shows strong resilience and professionalism. The curriculum ideological and political teaching mode integrates curriculum knowledge guidance, ability guidance, skill guidance, and ideological and political guidance. Relying on the curriculum ideological and political achievements, the student's league branch won the national vigorous league branch. According to the actual needs and development potential of enterprises in the industry, establish close ties with the industry to form an ideological and political community of Lide Shuren course. In the process of promoting the integration of the ideological and political model of the "school-enterprise" course through practical results, the content of this course is applied to the job training and evaluation work of professional and technical personnel in the water supply and drainage industry in Guangxi. There are 36 training batches in total. 1,000 people, with a wide range of social services and strong influence.

## 6. Summary

"Sewage Treatment Technology" is the core course of water supply and drainage engineering technology. The content of the course is comprehensive, involving professional knowledge in physics, chemistry, and biology, and emphasizes the cultivation of comprehensive analysis and practical operation ability. The teaching team reformed the "Sewage Treatment Technology" course based on the ideological and political concepts of the course. The reformed course took the latest theoretical and practical results of Xi Jinping's ecological civilization thought as the starting point, and explored the ideological and political elements of the course from seven dimensions, forming a "four the ideological and political structure of the "guided" course. In the course of course teaching, information-based teaching tools are used flexibly, combined with diversified teaching methods, to comprehensively improve students' professional quality and ideological level, and achieve the goal of efficiently cultivating high-quality talents in the sewage treatment industry. Next, the course group will combine the actual situation:

Raise the height of knowledge and strive to be a disseminator of "curriculum ideological and political". Further study the entry point of integrating into ideological and political, to build oneself with morals, learn with morals, and teach with morals. Only in the teaching of professional courses can it be fascinating and subtle. The energy landlord position continuously sows the seeds of truth, goodness and beauty into the hearts of students.

Promote the deep integration of "smart education + curriculum ideology". Further integrate teaching content, and rationally use information-based teaching big data statistical methods. The establishment of a special database on the integration of ideological and political elements of teaching into the curriculum to promote the rapid and efficient development of ideological and political courses.

Strengthen teachers' moral teaching and set an example. Construct a modular curriculum. Each teacher focuses on the teaching of a certain module in the course, and is specialized, precise, and in-depth in depth. Different teachers share a course to show different teaching styles. Teachers use their own personality charm and thoughts. Behavior, speech and behavior influence students and become role models for students to learn; use online platforms and on-site training to strengthen the continuous accumulation, renewal and perception of professional knowledge.

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