

# *Exploration and Practice of Curriculum Ideology and Politics in the Classroom of Marine Engineering Courses Take "Principles of Ship Designing" as an Example*

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**Abstract:** Colleges and universities should comprehensively promote the construction of "curriculum ideology and politics" and give full play to the main channel of classroom education. Combined with the background of ideology and politics education in the new era, the concept of "curriculum ideology and politics education" is integrated into the course of "Principles of Ship Designing". This paper introduces the necessity of carrying out curriculum ideology and politics education in the course, extracts the elements of curriculum ideology and politics education, analyzes typical teaching cases, and discusses the reform methods of curriculum ideology and politics education, aiming at achieving the goal of teaching and educating people.

## 1. Introduction

General Secretary Xi Jinping emphasized in the National Conference on Ideological and Political Work in Colleges and Universities that we should insist on making moral education the central link, and put ideological and political work through the whole process of education and teaching to realize the whole process of educating people and educating people in all aspects<sup>[1]</sup>. Colleges and universities comprehensively implement the construction of "curriculum thinking politics", give full play to the main channel of classroom education, actively promote the integration of professional education and thinking politics education, and implement the fundamental task of establishing moral education. How to reasonably infiltrate the element of thinking and politics into professional knowledge? How to reasonably and skillfully carry out moral education in the teaching process? How to help students achieve all-round development of moral, intellectual, physical, aesthetic and labor based on professional curriculum education? This is the key question to be considered by a professional course teacher before promoting the construction work of curriculum thinking and politics. First of all, we attach great importance to it from the ideological point of view, and then deeply excavate and condense the elements of thinking and politics contained in the professional

courses and design a reasonable integration strategy. In this paper, we will take the course "Principles of Ship Designing" as an example, combine the characteristics of the course, specifically analyze the necessity of carrying out thinking and politics education, and explore and analyze the excavation and refinement of the elements of thinking and politics in the teaching content and the reform of teaching methods<sup>[2-4]</sup>.

## **2. The Necessity of Curriculum Ideology and Politics Education in the course of "Principles of Ship Designing"**

### **2.1. Course Introduction**

The course focuses on the basic principles and methods of overall design of ships. Through the study of this course, it aims to make students understand the work content of overall design of ships, be familiar with the requirements of relevant codes and international rules and conventions, master the basic principles and design methods of overall design, and establish the correct design ideas. Through the teaching links, students will develop the ability to analyze and solve the overall design problems comprehensively by applying the basic knowledge of the profession, so that they will have the initial ability to engage in practical work and research work in this field, and lay a good foundation for the design work of ships and marine engineering in the future<sup>[5]</sup>.

### **2.2. The necessary of carrying out Curriculum Ideology and Politics in the Course**

The course "Principles of Ship Designing" is a very practical course with the characteristics of comprehensiveness, applicability and expansion. In the past, the teachers of this professional course focused more on teaching professional knowledge such as general design of ships, while the teachers' level of thinking and political education was relatively weak<sup>[6]</sup>. Therefore, in the process of implementing the construction of the course of thinking and politics, the teachers of professional courses should improve their ability of thinking and politics education, fully extract and refine the elements of thinking and politics based on the course, and skillfully integrate them into the professional education, realize the integration of professional knowledge education and thinking and politics education, lay the professional foundation and ideological foundation for the all-round growth of students, and truly realize the "teaching and education" function of teachers<sup>[7]</sup>. The function of "teaching and educating people". Therefore, teachers of professional courses should pay more attention to moral education while grasping professional education, guiding students to establish a correct world view, outlook on life and values, cultivating students' ideological and political literacy, teaching them to love the country, love their jobs, dedication and devotion, etc.

## **3. Excavation of Curriculum Ideology and Politics Elements and Case Analysis of "Principles of Ship Designing" Course**

### **3.1. Exploring the Elements of Curriculum Ideology and Politics**

In the process of teaching design of the course of "Principles of Ship Designing", the elements of Curriculum Ideology and Politics Politics can be explored and condensed according to the knowledge points of different chapters, for example, through hot news, factual cases, pictures and stories, so that the elements of Curriculum Ideology and Politics Politics can be quietly integrated into the classroom education, and can be integrated with the teaching of professional knowledge and naturally connected. Take "Principles of Ship Designing" edited by Prof. Yunping Xie as an

example, the design of the integration points and elements of thought politics is combined with the main points of lectures, as shown in Table 1 below.

Table 1: Curriculum Ideology and Politics Content.

Teaching content	Curriculum Ideology and Politics Elements	Methods and Tools
1. Ask questions to introduce the new lesson. Introduce the main content of this course.	Think with questions and venture into new areas.	Introduce the topic by asking questions, and use PPT to explain.
2. Introduce the key points, i.e. the importance of marine resources for human beings and the strategic significance of implementing marine development.	(1) the importance of ocean awareness; (2) the fact that ocean resources are very rich and we need to use technology to exploit them rationally as well as to protect them; (3) the importance of ocean security, emphasizing maritime rights and cultivating students' patriotic sentiments.	Through photos and data display, the richness of marine resources can be presented very visually, while discussing the elements of course thinking, so that students can have an understanding acceptance of the thinking content.
3. Ocean development is so important, through what methods do we need to develop and protect the ocean in a scientific and rational way? Introduce the key content, that is, the connotation of marine engineering.	Look at the problem comprehensively, open up your horizons and be good at finding the right direction for your research.	Write the framework of the section on the board. Lead the students to understand the connotation of marine engineering in a broad and narrow sense.
4. Introduce the excellent marine engineering in China. Focus on several related to this specialty, so that the students can have an intuitive understanding of the application of this specialty.	Enhance national self-confidence and pride. Enhance the sense of professional identity. Build confidence in contributing to the cause of a strong ocean state.	Examples were given to make the students aware of the achievements of China's marine engineering business and to appreciate the wide range and importance of the specific engineering applications of the "Ocean Power" strategy.

### 3.2. Second Section Curriculum Ideology and Politics Typical Case



Fig.1 “Jiaolong” manned submersible

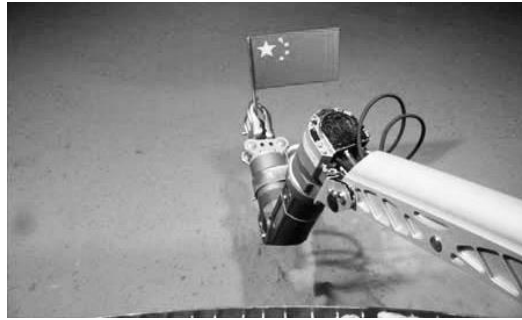


Fig.2 The "Jiaolong" put the national flag on the bottom of the South China Sea

Combining the "Jiaolong" manned submersible with Figure 1, we will teach the importance of the twists and turns of the profile design. With the unique wisdom of our countrymen, the chief design team of "Jiaolong" conquered the difficult design problem and designed a manned submersible with a shark-like shape<sup>[8]</sup>. The whole design process is full of twists and turns and difficulties, taking into account the overall appearance, performance in the water, hydrodynamic model and a series of factors, constantly adjusting, modifying and optimizing, and finally forming its optimal line shape, so the process of profile design is the process of continuous optimization. Combined with the Figure 2, "Jiaolong" mechanic put the national flag on the bottom of the South China Sea, teaching the proud achievement of "Jiaolong" is the result of the continuous struggle of the Chinese manned deep diving team for countless days and nights, they practice "rigorous pragmatism". The students were guided to establish a rigorous and realistic scientific attitude, and to firmly believe in climbing to the top, and to inherit the spirit of China's manned deep diving.



Fig.3 Shanghai Waigaoqiao Intelligent 400,000-ton ultra-large ore vessel

Combined with the above-mentioned Figure 3<sup>[9]</sup>, the great achievements made by China's shipbuilding industry are described. Figure 3 shows the world's first 400,000-ton intelligent large-scale ore ship built by Shanghai Waigaoqiao, which is based on the "Intelligent Ship 1.0 Special Project" of the Ministry of Industry and Information Technology of China. The ship has broken through major technologies and obtained the intelligent symbols of two classification societies, CCS and DNV GL, at the same time, and is currently the largest intelligent ship in the world. The ship is independently developed and designed by China, and the box type design has pushed the development of the world's ultra-large ore ship to a new level. These achievements signify that China's ship and ocean engineering equipment has achieved a substantial leap from "following" to "leading". Through factual explanation and relevant videos, the students were inspired with national

pride and recognition of the industry, and guided to play their own power for the future strength of the motherland's manufacturing industry.

#### **4. Reform method of Curriculum Ideology and Politics Education for the course of "Principles of Ship Designing"**

##### **4.1. Improving teacher' ideology and political literacy**

The first thing to do is to improve teachers' ideological and political literacy and ability. As a teacher of professional courses, professional knowledge should be solid, while their own ideological and moral qualities and ideological and political theoretical level are the key factors for the implementation of "curriculum thinking politics". Therefore, teachers need to keep learning and thinking, and improve their own ideological and moral qualities. Through the "Curriculum Ideology and Politics" expert lectures, online Curriculum Ideology and Politics course learning, course group discussion and exchange, reading related books and other ways and means to continuously improve their ideological and political level and Curriculum Ideology and Politics ability, and the practical application of the methods and approaches learned, in the usual teaching continue to improve.

##### **4.2. Doing a Good Ideology and Politics Design of the Course**

In order to ensure the scientific and effective teaching of "Curriculum Ideology and Politics", the Curriculum Ideology and Politics design of the professional courses is crucial, and the Curriculum Ideology and Politics elements of the courses should be fully explored and the design of the interface between Curriculum Ideology and Politics elements and professional knowledge should be done. Based on the materials collected and organized, including relevant pictures, videos, cases and news, the teachers of the course team redesigned the teaching contents, revised the course syllabus, formulated a reasonable teaching program, reasonably integrated the teaching contents into the thinking and political elements through the collective preparation, communication and discussion of the course, and did a good job in the "Principles of Ship Designing" course. The teaching design of "Principles of Ship Designing" course is designed to integrate the major with Curriculum Ideology and Politics and achieve the ideal effect of Curriculum Ideology and Politics Education.

##### **4.3. Improving Teaching Methods and Appropriate Curriculum Ideology and Politics**

In order to improve the effect of Curriculum Ideology and Politics education, teachers must improve teaching methods. The teaching of Curriculum Ideology and Politics elements should focus on the clever integration and articulation with professional knowledge, and cannot be rigidly applied, but can use case study method and project teaching method. Teachers focus on combining videos, cases, pictures and other teaching materials, strengthening interactive communication with students, guiding students to think independently through cases and projects, discussing and analyzing, and then teachers will analyze in a smooth way and talk about it, making the organic integration of professional knowledge and Curriculum Ideology and Politics Science content. The implementation of the Curriculum Ideology and Politics is different from the ordinary Curriculum Ideology and Politics, and should focus on combining the production reality, relying on the actual problems to further expand the breadth and depth of teaching content.

## 5. Conclusions

Curriculum Ideology and Politics is a new task for college teachers, and teachers must be fully aware of the great significance of the construction of Curriculum Ideology and Politics. In the teaching of the Curriculum Ideology and Politics of Principles of Ship Designing, the course team fully explores and refines the elements of the Curriculum Ideology and Politics, carefully does the teaching design of the Curriculum Ideology and Politics, continuously improves the teaching methods, realizes the organic integration of Curriculum Ideology and Politics education of professional education, and truly implements the double responsibility of teaching and educating people.

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