Exploration of Ideological and Political Education Reform in Civil Engineering Construction Organization Course

Pengcheng Pan1,2, Maoyuan Li1,2, and Chenshuo Li1,2,*

1Department of Civil Engineering, College of Civil Engineering and Mechanics, Yanshan University, Qinhuangdao, Hebei, China
2Key Laboratory of Green Construction and Intelligent Maintenance for Civil Engineering of Hebei Province, Yanshan University, Qinhuangdao, Hebei, China

Abstract: This article explores the reform of ideological and political education in Civil Engineering Construction Organization (CECO) course. Firstly, the ideas of ideological and political education reform and the integration methods of ideological and political education are introduced. Based on the characteristics of the course and the learning situation, the overall design of ideological and political education in the course is carried out, and the distribution of ideological and political elements is given. Afterwards, the teaching methods and assessment methods of ideological and political education in the course are introduced. Preliminary results have been achieved in teaching practice. The ideological and political objectives of the course have been basically achieved.

1.Introduction

General Secretary Xi Jinping emphasized at the National Conference on Ideological and Political Work in Universities that we should adhere to taking cultivating morality and talents as the central link, implement ideological and political work throughout the entire process of education and teaching, achieve whole-process and all-round education [1]. In May 2020, the Ministry of Education's "Guidelines for Course Ideological and Political Construction in Colleges and Universities" clearly states that "the content of course ideological and political construction should closely focus on strengthening students' ideal and belief, taking loving the Party, loving the country, loving socialism, loving the people, and loving the collective as the main line, optimizing the supply of course ideological and political content around key points such as political identity, patriotism, cultural literacy, awareness of constitution and law, and moral cultivation, and systematically carrying out education on socialism with Chinese characteristics and Chinese Dream, education on socialist core values, education on the rule of law, education on labor, education on mental health, and education on traditional Chinese culture.

The course is the basic unit for schools to achieve their educational and teaching goals, and is the core element of professional construction and talent cultivation. "Civil Engineering Construction Organization" is a core course for civil engineering majors in higher education institutions. The course mainly cultivates students' abilities in the following three aspects: in terms of knowledge goals, students are expected to master the basic knowledge and laws of construction organization, as well as keep abreast of new trends in this field; in terms of ability goals, students are expected to possess the basic ability to independently analyze and solve organizational planning problems related to engineering construction; in terms of ideological and political goals, students are expected to firmly uphold the spirit of loving the Party and patriotism, establish the spirit of craftsmanship, clarify the concept of engineering ethics, and enhance dialectical thinking.

2.The teaching reform ideas for CECO course

In the course of CECO, we integrate theory and practice to cultivate students' patriotism and love for the party, fostering a spirit of craftsmanship and nurturing skilled craftsmen for a great nation, instilling proper engineering ethics, and strengthening their dialectical thinking. Through real case studies, we guide students to comprehend the significant role of party leadership and the socialist system in the field of civil engineering, thereby enhancing their sense of national pride and patriotism. We emphasize that attention to detail is paramount, cultivating a professional demeanor that values precision and strives for excellence [2,3].

Additionally, we introduce concepts of engineering ethics, allowing students to grasp professional morals and norms, shaping a robust professional value system. By examining ethical dilemmas and challenges from actual engineering projects, we encourage students to contemplate how to uphold principles of science, fairness, and impartiality within construction organizations.

* Corresponding author: lichenshuo@stumail.ysu.edu.cn
Lastly, we integrate the fundamental principles of dialectics into our course, equipping students with essential dialectical thinking methodologies. This not only reinforces their critical thinking abilities but also invigorates their capacity for innovation [4]. This approach aligns with the rigorous standards set by the SCI (Scientific Citation Index), ensuring a comprehensive and nuanced educational experience for our students. The schematic diagram of the teaching reform ideas for the CECO course is shown in Figure 1.

![Diagram of Course Reform Ideas](image)

**Figure 1. Diagram of Course Reform Ideas**

### 3. Exploration of the reform and practice of ideological and political education in CECO course

The appropriate course construction is an important foundation and fundamental prerequisite for enhancing the educational effectiveness of ideological and political education in courses [5]. The "Civil Engineering Construction Organization" teaching team has been reconstructing and practicing the course teaching system for many years. We actively explore effective teaching methods to achieve the goal of ideological and political education in courses. Taking the course of CECO in Yanshan University as an example, we introduce the specific implementation of the reform.

#### 3.1. Overall Design of Course Ideological and Political Education

We initially restructured the course content, extracted ideological and political elements, and based on the principles of "timely, moderate, and appropriate", excavated ideological and political cases. We used ideological and political cases to connect professional content with ideological and political teaching, achieving seamless connection effect. Overall design of ideological and political education for the course of civil Engineering construction organization is shown in Table 1.

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Professional teaching content</th>
<th>Content of ideological and political education</th>
<th>The correlation between professional teaching and ideological and political education</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction; Ancient construction organization</td>
<td>Cultural confidence; National pride and identity</td>
<td>A Case Study of Construction Organization in the Construction Process of the Great Wall and Ancient Residential Buildings - &quot;Cultural Confidence&quot;.</td>
</tr>
<tr>
<td>1</td>
<td>Introduction; Construction preparation work</td>
<td>The spirit of craftsmanship</td>
<td>Negligence in rechecking the water level at the intake of a certain power station - a &quot;craftsman spirit&quot; must be possessed in construction preparation.</td>
</tr>
<tr>
<td>2</td>
<td>Principle of Flowing Construction; Parallel construction method</td>
<td>Love the Party and love the country; Institutional confidence;</td>
<td>Why is it necessary to build Huoshenshan Hospital unreasonable? - Love the Party and love the country. Why can't Americans build Huoshenshan Hospital? - Institutional confidence.</td>
</tr>
<tr>
<td>3</td>
<td>Network plan; Determination of process time</td>
<td>Dialectical thinking</td>
<td>Although quotas provide the basis for determining</td>
</tr>
</tbody>
</table>

| Table 1. Overall course design |
3.2. Methods of integrating ideological and political education into the course

In the teaching of CECO course, methods such as case introduction, analogy and contrast, and personal influence can be employed. Among them, the case introduction method presents outstanding historical cases and modern super projects in the development of the civil engineering industry, allowing students to appreciate the tremendous achievements of New China. Simultaneously, engineering accident cases can guide students in analyzing and resolving problems to stimulate students' interest in learning [6]. The analogy and contrast method aids students in comprehending ideological and political elements within the curriculum by drawing parallels and contrasts between scientific and technological issues and philosophical ideas, as well as between systems and phenomena, thereby enhancing their ideological and political qualities [7]. By comparing the construction period of Huoshenshan Hospital with similar foreign buildings, it is clear to see the tremendous power of China's socialist system. The personal influence method infects and influences students by sharing the stories of advanced figures and masters, fostering a spirit of loving the country, pursuing excellence, and dedicating oneself to a profession. This approach cultivates a correct professional outlook and a consciousness of lifelong learning [8]. By combining these three methods, a more effective teaching outcome can be achieved, assisting students in better understanding course content and guiding them in forming correct values and moral perspectives.

3.3. Teaching methods for ideological and political education in course

The integration of ideological and political education into courses is an important aspect of overall education. The use of video and animation methods in this integration can help to improve students' learning interests and engagement. Videos provide vivid formats, concise content, and ease of comprehension, capturing students' attention and facilitating knowledge acquisition [9]. Animation instruction, on the other hand, presents knowledge points through stories and scenarios, making them more memorable for students [10]. The use of modern educational tools such as Learning Communication can also facilitate communication during the teaching process, promoting the application of modern educational technology in ideological and political education within courses. The implementation of these methods has effectively enhanced students' learning outcomes and interest, advancing the in-depth integration of ideological and political education within courses. Therefore, it is recommended that more courses adopt these methods in the future to improve the effectiveness of ideological and political education.

3.4. Course ideological and political education assessment

Assessment and evaluation serve as the guiding force for teachers' educational and teaching activities, and a scientific and reasonable assessment and evaluation system can better stimulate and maintain students' enthusiasm for learning. In order to comprehensively grasp students' mastery of the course, the "Civil Engineering Construction Organization" course, under a blended learning model, eliminates the evaluation method of "one exam determines lifetime" and the single evaluation index system that only focuses on scores. Instead, it adopts a combination of process evaluation and summative evaluation, utilizing multiple methods such as three-level projects, regular homework, and final exams to evaluate students' learning effectiveness. The evaluation perspective expands towards ideological and political assessment of students' political literacy, humanities literacy, engineering social awareness, and professional ethics, forming a more three-dimensional and transparent course assessment and evaluation system. This assessment and evaluation system is integrated throughout the entire teaching process, utilizing a combination of teacher evaluation, self-evaluation, and peer evaluation. Teaching evaluation and management shift towards "speaking with data," comprehensively considering students' learning effectiveness, facilitating the cultivation of peer learning abilities and cooperation spirit, and resulting in more objective and comprehensive evaluation results [11].

4. Feedback on teaching effectiveness

After the ideological and political education reform in the course, students have a deeper understanding of the professional connotation, appreciate the wisdom and feelings contained in engineering, and have a significantly enhanced awareness of loving the party and loving the country. They have a deeper understanding of the spirit of craftsmanship and a preliminary cognition of
professional ethics. As college students, their ability to understand and analyze things has been improved.

Through feedback, some issues have been identified that require further resolution, such as how to adapt teachers' ideological and political capabilities to meet the demands of the new era, how to plan and implement ideological and political education in courses from a "professional" perspective, and how to more accurately quantitatively evaluate the effectiveness of ideological and political education in student courses. These are all topics that require further research.

5. Conclusion

The aim of this study is to explore the teaching reform of ideological and political education in the "Civil Engineering Construction Organization" course. Through systematic analysis of the course teaching content and student characteristics, the teaching design was re-engineered, integrating ideological and political education elements into the course organically. The teaching process employed videos, animations, and various methods, fully utilizing modern educational technology tools such as Learning Communication; using case introductions, comparisons and analogies, and personal influence teaching methods to guide students in critical thinking and constructive criticism; finally, conducting teaching assessments to evaluate students' learning outcomes and promote the self-improvement of both students and teachers. However, further design of ideological and political elements at the professional level is needed, employing multiple methods to achieve more accurate effect evaluation in order to achieve better results in ideological and political education.

Funding

This study is jointly supported by the 2021 Hebei Province Course Ideological and Political Demonstration Project (Demonstration Course Name: Civil Engineering Construction Organization; NO. KCSZSF019) and the 2022 Provincial Postgraduate Demonstration Course (Demonstration Course Name: Modern Civil Engineering Project Management; No. KCJSX2022028)

Reference