

Research on the Integration of Ideological and Political Elements in the Civil Engineering Construction Organization Design Course

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Abstract: By organically integrating ideological and political elements into the civil engineering construction organization design course, and through methods such as course content reconstruction, guidance of typical cases, and integration into project practices, a teaching model centered on professional skills cultivation and oriented towards value guidance is constructed. In the teaching links such as the formulation of construction plans, the control of construction progress, and the optimal allocation of resources, ideological and political education contents such as engineering ethics, safe production, and responsibility and commitment are integrated to enhance students' sense of social responsibility and professional mission, and achieve the goal of collaborative education of knowledge imparting and value guidance. Teaching practice shows that this integrated path is conducive to improving students' comprehensive quality and promoting the synchronous development of professional ability and ideological quality.

Keywords: Ideological and political education; Integrated teaching; Construction organization design; Engineering ethics; Teaching reform

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1. Introduction

With the in-depth advancement of ideological and political education in college courses in the new era, how to effectively integrate ideological and political education into professional courses has become an important issue for improving the quality of education. Civil engineering, as an important discipline related to the construction of national infrastructure, its construction organization design course not only carries the imparting of technical knowledge, but also serves as an important carrier for cultivating students' awareness of engineering ethics and their sense of responsibility and commitment. Skillfully integrating ideological and political elements into the teaching process helps to build a teaching system that attaches equal importance to value guidance and ability cultivation, and promotes students to achieve the simultaneous improvement of professional quality and ideological quality.

2. Analysis of the current teaching situation and educational shortcomings of the construction organization design course

2.1. Basic information about the construction organization design course

The construction organization design course is an important component of the civil engineering major, aiming to cultivate students' abilities in construction planning, resource allocation, progress control, and safety management in actual engineering projects. This course helps students master the basic process of project implementation by teaching relevant content such as construction technology, management methods, and engineering economics. However, in the current teaching process, although students' professional skills have improved, there is less attention paid to aspects such as engineering ethics and social responsibility, resulting in students lacking the necessary professional ethics and social responsibility in actual work^[1].

2.2. Current situation of integrating ideological and political education

In the civil engineering major of many colleges and universities, the course of construction organization design pays more attention to the imparting of techniques and theories, while the integration of ideological and political education is relatively weak. Some teachers occasionally mention moral and ethical issues in class, but there is a lack of systematic ideological and political education arrangements. With the country's emphasis on educational quality, especially the requirements for ideological and political work, many institutions have realized the issue of integrating professional courses with ideological and political education, but there are still difficulties in effectively integrating them. Most courses still remain at the stage of simple moral explanations and fail to be fully reflected in the actual teaching design and case analysis.

2.3. The gap between the training objectives and the actual demands

With the high demands of the state on the engineering industry, especially the increasing attention paid to safety management, environmental protection, and other aspects in the construction industry, students not only need to master exquisite professional skills, but also need to have a strong sense of social responsibility, teamwork awareness, and engineering ethics. However, the current teaching content focuses more on technical knowledge and neglects the cultivation of students' comprehensive qualities, especially the guidance in aspects such as responsibility and social ethics is insufficient. This single training approach that focuses on professional skills is difficult to meet the comprehensive requirements of talent cultivation in the new era, and has a certain gap with the industry's demand for high-quality engineering and technical talents.

2.4. Shortcomings of integrating ideological and political elements in education

The course of construction organization design fails to effectively integrate ideological and political education, resulting in students easily neglecting the cultivation of social responsibility and professional ethics in engineering practice. For instance, in some project decisions, students may pay more attention to technical feasibility and cost-effectiveness, while neglecting social issues such as environmental protection and personnel safety^[2]. This kind of thinking limitation restricts the improvement of students' comprehensive abilities. Due to the lack of guidance from ideological and political education, students may lack the ability and courage to deal with complex social and ethical issues when facing engineering projects.

3. Exploration of the integration path of ideological and political elements in the teaching of construction organization design

3.1. Reconstruction of course content is combined with ideological and political elements

First of all, the reconstruction of the course content is the basis for integrating ideological and political elements into the teaching of construction organization design. In the formulation of the teaching syllabus, it is necessary not only to cover traditional knowledge such as construction organization design theory, construction progress control, and resource allocation, but also to integrate ideological and political education content into each teaching link. For instance, when explaining the compilation of construction plans, the topics of social responsibility and environmental protection can be introduced to discuss how to balance economic benefits and social benefits in the construction organization design, how to deal with environmental protection regulations and safety norms during the construction process, and cultivate students' sense of social responsibility. In the teaching of schedule and cost management, case analysis can be combined to guide students to pay attention to reasonable construction period arrangements and construction quality, and avoid overly pursuing cost savings while neglecting the long-term impact on society and employees.

3.2. Case analysis method and typical event guidance

In the teaching process, ideological and political education is organically integrated into the discussion of actual engineering projects through the case analysis method. Teachers can select some representative architectural project cases, especially those with significant social impact, as teaching materials. For instance, explain how to balance social and economic benefits during the design and construction of a certain engineering project, and how to deal with social public opinion caused by moral issues during the construction process, etc. Through the guidance of such cases, it can not only help students better understand professional knowledge, but also trigger their thinking on ideological and political issues such as social responsibility, engineering ethics, and teamwork, and enhance their moral judgment and sense of social responsibility^[3].

3.3. Project-based learning and practice course design

In order to better combine ideological and political elements with professional skills, the project-based learning mode can be introduced in the curriculum design. Through practical courses, students can not only exercise their professional skills in construction organization design during the process of simulating project management, but also experience the challenges of social responsibility and ethics when facing actual problems. Teachers can guide students to think about how to deal with complex social and environmental issues in the construction organization design, such as construction safety, labor rights, green buildings, etc., and incorporate these discussions as part of the project scheme design. During the project implementation process, students should not only consider construction techniques and economic factors but also pay attention to the impact of construction on society and the environment, so as to integrate ideological and political education in practical operations.

3.4. Optimization of the teaching evaluation system

In order to ensure the effective integration of ideological and political elements in the construction organization design course, the teaching evaluation system needs to be adjusted accordingly. In the traditional evaluation system, the focus is mainly on students' technical abilities and the mastery of professional knowledge. However, after the integration of ideological and political education, the evaluation system should also incorporate the examination of students' ideological and political qualities. For instance, in the final grade assessment of students, the performance of ideological and political education in the curriculum can be regarded as an

important assessment content, with a focus on examining whether students can demonstrate concern and reflection on society, the environment, and ethics in the formulation of construction plans.

4. Implementation strategies for constructing a dual-dimensional teaching system of “technology + ideology”

4.1. Curriculum objective setting that emphasizes both technology and ideology

The first step in constructing a dual-dimensional teaching system of “technology + ideology” is to clarify the positioning of the course objectives. In the setting of teaching objectives, it is not only necessary to ensure that students master the core technical knowledge and skills of civil engineering construction organization design, but also to pay attention to the cultivation of students’ ideological and political qualities. Therefore, the course objectives should cover the comprehensive cultivation of professional knowledge, practical ability, and ideological and political quality^[4]. For instance, the teaching objective can be set as follows: Students can master the basic theories and methods of construction organization design proficiently, possess certain engineering practice abilities, and at the same time have a good sense of engineering ethics and social responsibility.

4.2. Integration and design of teaching content

In order to achieve the teaching goals of the dual dimensions of “technology + ideology,” the teaching content needs to be organically integrated. First of all, in the traditional technical teaching content, teachers can enrich the technical explanations by integrating content such as social responsibility and engineering ethics. For instance, when explaining the management of construction progress, one can discuss the potential safety hazards that may arise from overly pursuing a shortened construction period, as well as how to balance factors such as time, cost, and safety, to cultivate students’ awareness of the importance of engineering quality and social responsibility. In the teaching of technical difficulties, teachers can guide students to think about the impact of construction organization design on the environment, society, and human resources, and enhance students’ sense of social responsibility and team spirit.

4.3. Diversified teaching methods and activity designs

When implementing the dual-dimensional teaching system of “technology + ideology,” it is crucial to adopt diversified teaching methods and activity designs. In addition to the traditional lecture method, teaching methods such as case teaching, project-based learning, and role-playing can effectively enhance students’ sense of participation and depth of thinking. For instance, in case teaching, teachers can introduce real cases involving engineering ethics, construction safety, environmental protection, and other aspects, and encourage students to discuss and solve the ideological and political problems therein. In project-based learning, students can simulate the entire process of engineering projects, conduct construction organization design, and cultivate ideological and political qualities such as teamwork and responsibility in practice.

4.4. Establishment of classroom interaction and feedback mechanisms

To ensure the effective implementation of the “technology + ideology” dual-dimensional teaching system, the construction of classroom interaction and feedback mechanisms is an indispensable link. In the classroom, teachers should pay attention to interaction with students, encourage them to discuss technical and ideological and political issues, and promote the collision of students’ thinking. For instance, teachers can raise open-ended

questions such as “How can social responsibility be reflected in the construction organization design?” or “How to balance the relationship between cost and safety and environmental protection?” Through these discussions, students can have a deeper understanding of the dialectical relationship between technology and ideology. In addition, teachers should also provide timely feedback to students. They should not only assess students’ technical abilities but also pay attention to their progress and performance in ideological and political education. Through regular discussions, questionnaires, and other means, they should help students improve both their technical abilities and ideological qualities simultaneously.

5. Mechanisms for integrating effectiveness assessment and continuous optimization of teaching quality

5.1. Establishment of a multi-dimensional evaluation system

In order to ensure that ideological and political elements are effectively integrated into the construction organization design course and achieve the dual cultivation of technology and ideology, it is indispensable to establish a multi-dimensional evaluation system. This assessment system should cover multiple dimensions such as students’ professional skills, sense of social responsibility, ethical awareness, and teamwork spirit. In terms of the assessment of technical abilities, teachers can evaluate students’ professional levels through traditional examinations, assignments, and project achievements. In terms of ideological and political literacy, it can be examined through aspects such as classroom participation, ethical judgment in case analysis, and social responsibility in project design ^[5].

5.2. Regular feedback and teaching adjustment mechanism

The establishment of the evaluation system is only the first step. The key lies in how to make teaching adjustments based on the evaluation results. Therefore, the regular feedback mechanism is particularly important. At the end of each semester or academic year, teachers should collect students’ learning feedback, analyze their performance in professional skills and ideological and political qualities, and identify the problems and deficiencies in teaching. For example, students may perform well in technical issues, but they are lacking in ethical judgment and social responsibility awareness. Based on this feedback, teachers can adjust their teaching strategies and content, strengthen the cultivation of students’ ideological and political qualities, and ensure the continuous optimization of teaching content and methods. In project-based learning or classroom interaction, teachers should also provide immediate feedback to help students identify and correct problems in a timely manner.

5.3. Teaching quality monitoring and continuous optimization

In order to further improve the teaching quality, it is crucial to establish a teaching quality monitoring mechanism. Schools can supervise the teaching process through regular teaching evaluations, classroom observations, and self-assessments by teachers, and formulate corresponding optimization plans in combination with the comprehensive quality evaluation results of students. For instance, schools can provide feedback on teachers’ teaching content, methods, and teaching attitudes based on the assessment results, and offer corresponding training or guidance to help teachers continuously improve their teaching proficiency. Meanwhile, the optimization of teaching content and methods should also be adjusted in accordance with the needs of students and changes in social development. For instance, new social hot issues such as environmental protection and engineering ethics should be continuously integrated to maintain the forward-looking and

timeliness of the courses.

5.4. Long-term development assessment of students and curriculum updates

Finally, in order to achieve the continuous improvement of teaching quality, schools should take the long-term development of students as an important indicator for assessment. By tracking the performance of graduates in their careers, especially in terms of social responsibility, ethical decision-making ability, and teamwork spirit in project management, the actual effect of ideological and political elements in the curriculum can be understood. This kind of assessment can not only provide a practical basis for teaching but also offer direction for the further update and optimization of the curriculum. Through the feedback from graduates, the school can promptly identify the deficiencies in the courses, improve the teaching content and methods, and keep the course content in line with social demands and industry standards, thereby achieving a sustainable improvement in educational quality.

6. Conclusion

Integrating ideological and political elements into the civil engineering construction organization design course is an important manifestation of the curriculum reform and the concept of fostering virtue and nurturing talent in colleges and universities in the new era. Through multi-dimensional approaches such as content reconstruction, case guidance, project practice, and teaching evaluation, a dual-dimensional teaching system of “technology + ideology” is constructed, which not only strengthens students’ professional skills but also enhances their sense of responsibility and engineering ethics. Practice has proved that this integration model is conducive to achieving the unity of knowledge imparting and value guidance, and promoting the full implementation of the educational goals. In the future, continuous optimization in aspects such as mechanism improvement, resource integration, and faculty enhancement is still needed to promote the in-depth and solid development of ideological and political education in courses and serve the contemporary demand for cultivating high-quality engineering talents.

Disclosure statement

The author declares no conflict of interest.

References

- [1] Huang X, He X, 2022, Into the Ideological Elements of Civil Engineering Construction Course Teaching Exploration and Practice. *Journal of Anhui Construction*, 29(12): 112–114.
- [2] Zeng X, Wang L, Ding C, et al., 2021, Exploration and Practice of Ideological and Political Education in Applied Undergraduate Civil Engineering and Architecture Courses: Taking the “Civil Engineering Construction Organization” Course as an Example. *Journal of Changzhou Institute of Technology*, 34(03): 90–95.
- [3] Zhang Y, 2022, Research and Practice on the Path of Ideological and Political Education in Civil Engineering Construction Organization Course. *Anhui building*, 29(11): 103–104.
- [4] Feng Y, Wang Q, Liu K, et al., 2020, Teaching Discussion on the Integration of Ideological and Political Education Elements into the Course Civil Engineering Construction. *Journal of Social Sciences of Jiamusi University*, 38(04): 217–219.

- [5] Jia L, 2024, Analysis of the Path of Integrating Ideological and Political Elements into the Standardized Practical Teaching of Civil Engineering Construction Technology Course. *China Standardization*, (12): 217–219.

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