



Based on "Virtual Simulation Task Driven" Electronic Technology Course Ideological and Political Education Research on the Implementation Path of Teaching

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Abstract. Based on the "virtual simulation task driven" teaching model for electronic technology courses, starting from the actual situation of ideological and political education in electronic technology courses, we deeply explore ideological and political elements in theoretical and practical teaching, and construct an electronic technology course ideological and political education model based on the "virtual simulation task driven", integrating ideological and political elements into every aspect of teaching. Summarized the specific methods of implementing ideological and political education in the curriculum, achieving an organic unity of value guidance, knowledge education, and ability cultivation.

Keywords: Virtual Simulation; Technology Electronic Technology Course; Task Driven; Curriculum Ideological and Political Education

1 Introduction

In May 2020, the Ministry of Education issued the "Guidelines for the Construction of Ideological and Political Education in Higher Education Curriculum" (hereinafter referred to as the "Guidelines"), which pointed out that comprehensively promoting the construction of ideological and political education in curriculum is a strategic measure to implement the fundamental task of moral education, integrating value shaping, knowledge transmission, and ability cultivation into one and cannot be separated. National Education Department Policies and Directions, mark the formation of new thinking, new trends, and new patterns in cultivating moral education in universities - cultivating qualified socialist builders and reliable successors [1].

The most prominent characteristics of electronic technology courses are strong logical systematicity, obvious engineering practicality, obscure and difficult to understand content [2]. This type of course can use virtual simulation technology to simulate and explain difficult to understand circuits and engineering practice examples, helping students accurately and quickly understand the difficult and key knowledge of the course, and also helping to understand and master experimental operations.

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Therefore, based on the characteristics of the course and the "virtual simulation task driven" teaching mode, we will deeply explore the ideological and political elements of the course, and integrate them into the teaching of the course, the professional honor, social responsibility, and national mission of students enable them to possess a rigorous and meticulous scientific spirit.

2 The Proposal of Ideological and Political Education in Electronic Technology Courses Based on "Virtual Simulation Task Driven"

Based on virtual simulation technology and task driven teaching mode, construct an electronic technology course teaching mode that integrates virtual simulation and task driven. This mode can be roughly summarized as follows: task-based, teacher led, student led, using virtual simulation technology and physical experiments as means. During the teaching process, teaching activities are pre-set as four modules: design task, analysis task, completion task, and teaching evaluation[3-4]. Distinguish between theoretical teaching and experimental teaching, combine different contents to design "virtual simulation task driven" and apply it in teaching practice. At the same time, in order to further clarify the fundamental issue of "what kind of people to cultivate, how to cultivate them, and for whom to cultivate them"[5], ideological and political elements of the curriculum should be appropriately integrated into each stage of teaching, with students as the center, and the teaching content should be implemented in a hidden way, while the value concept should be disseminated through infiltration.

3 Implementation Path of Ideological and Political Education in Electronic Technology Courses Based on "Virtual Simulation Task Driven"

3.1 Clarify the Core Ideological and Political Literacy Content of Electronic Technology Courses

Goals guide direction and achievement standards [6]. With clear goals, we should explore the moral education resources in the curriculum, timely introduce the content of humanities and social sciences and dialectical materialism according to the classroom teaching content, stimulate students' thinking about life, establish their materialist scientific view, introduce a brief history of electronic technology development, and relevant famous scientists' contributions to humanity, enhance students' sense of mission and social responsibility in the era, To inspire students to take on the mission of serving the country through science and technology, and to organically integrate moral education elements as a means, with a focus on core values, social responsibility, and professional competence in the electronic technology industry, we will explore. In the process of excavation, philosophical principles, Chinese revolutionary history, logic, ethics, psychology, socialist core values, humanistic literacy, and other disciplines are

combined to further condense the essence of ideological and political education and sort out the specific direction of ideological and political education. The direction includes patriotism, dialectical thinking, cultivation of work style, craftsmanship spirit, professional ethics, etc.

3.2 Based on the "Virtual Simulation Task Driven" Electronic Technology Course Ideological and Political Education Teaching Model

Based on the goals and elements of ideological and political education, combined with the content characteristics and training objects of electronic technology courses, breaking through traditional teaching methods, and constructing a student-centered curriculum teaching model. With the help of constructivist theory and developmental teaching theory, combined with the characteristics of the training objects and courses, a "virtual simulation task driven" ideological and political education model for electronic technology courses is constructed. Distinguish between theoretical teaching and experimental teaching, and combine different contents for practical application of ideological and political education in courses based on "virtual simulation task driven".

In the teaching process, in order to enable students to make more efficient use of their time in class, it is necessary to assign some interesting, practical, and feasible small tasks before class. Students should understand the assigned tasks before class, conduct preliminary analysis, and design solutions to solve them. Through the teacher's explanation of basic knowledge in class, students can gain a certain understanding of the theoretical foundation of tasks through their understanding of basic knowledge. Then, the teacher assists students in task analysis by setting decomposition tasks. Students analyze tasks and raise questions based on their understanding of the decomposition tasks. The teacher answers questions and guides students in designing and interacting with them to ensure that students ultimately achieve the design of the plan. Students conduct virtual simulations of the approved plans, while teachers observe the implementation of each student's plan through the teaching platform, supervise and guide them at any time, and correct incorrect operations in a timely manner. Finally, students report on the process of completing tasks and display learning outcomes, while teachers evaluate and summarize them. Timely integrate ideological and political elements into the entire teaching process, and the implementation path is shown in Figure 1:

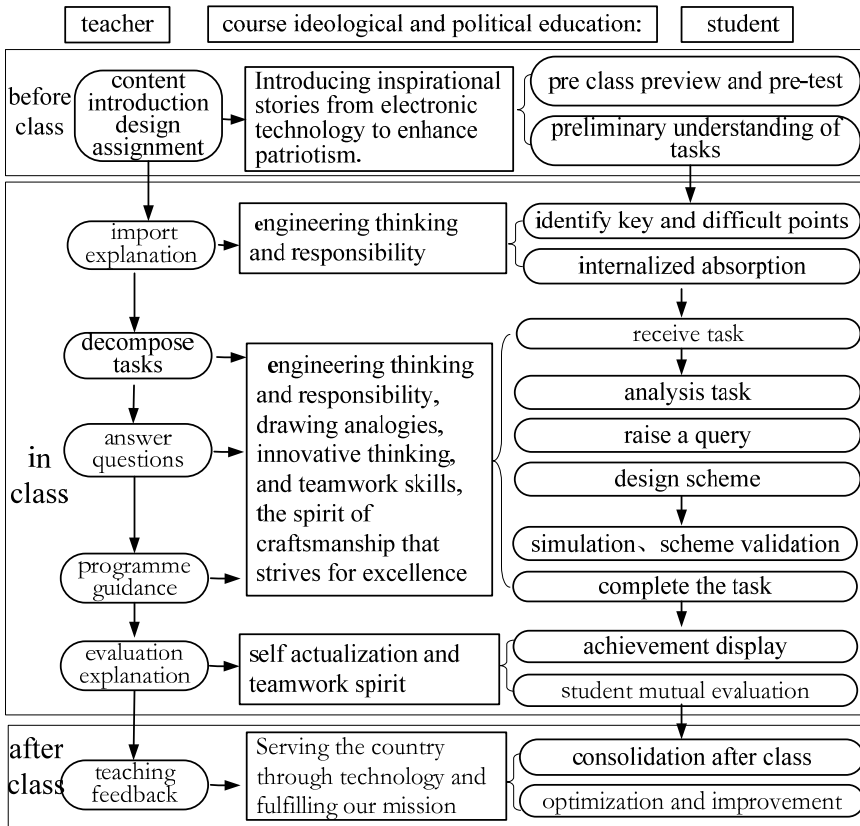


Fig. 1. Course ideological and political education teaching mode (owner-draw)

3.3 Research on the Implementation Strategy of Ideological and Political Education in Electronic Technology Courses Based on "Virtual Simulation Task Driven"

The course of ideological and political education includes more humanistic, social, and political content. The traditional teaching methods of storytelling and demonstration are no longer applicable. In order to improve the fun and student participation of ideological and political education content, and to make ideological and political education more practical and in-depth, flexible and diverse teaching forms should be adopted. For cultural content, inspirational discussions should be adopted, and through the collision of ideas, students should be led to understand traditional culture, national conditions, customs, and traditions Landform, etc. For scientists and engineers, the spirit of contribution and dedication touches the hearts of students through watching videos or telling stories, cultivating their dedication, innovation, professional character and behavior habits. In the teaching process, teaching methods and means are specifically manifested as:

Problem Anchoring Style

Due to the anchor style teaching, which is based on real examples or problems (as "anchors"), classroom teaching uses real cases and, under the guidance and inspiration of teachers, allows students to summarize or experience the qualities they should possess from known materials, thereby deepening their own cognition. By creating scenarios and presenting authentic materials, learning can occur in situations that are basically consistent or similar to the real situation. Teachers do not directly tell students how to solve the problem, but provide them with relevant clues to solve the problem, present authentic events closely related to the theme, and throw "anchors" to cultivate students' outlook on life and values through real-life problems presented through case studies.

Inspirational Debate Style

Regarding a certain topic, teachers inspire students to think and discuss. In the process of debating topics with distinct positive and negative characteristics, or highly controversial debates and defending their respective viewpoints, it triggers students to think from the inside out, promotes mutual learning and cooperation, and thus touches upon a deep sense of identity, cultivates and develops critical thinking abilities, and consciously implements them in action.

Broadcast Teaching Style

In addition to integrating ideological and political education into the curriculum, teachers can also choose to play positive energy videos during break time to emphasize that students should not forget their original intentions in future work; Use the Internet to expand classroom teaching to extracurricular activities, upload various ideological and political resources, case teaching resources, etc. through the network as an effective carrier, and grasp the students' homework situation in a timely manner through the release of rain classroom assignments, carry out teaching activities more effectively, release ideological and political resources related to the curriculum, etc., so that students are in a broader learning background, To enhance student engagement and experiential cognition in learning.

Therefore, it is necessary to start from the difficulty and effectiveness of implementing ideological and political education in the curriculum based on the characteristics of students. Through a large proportion of research and inviting experts to fully demonstrate, a comprehensive evaluation system for the effectiveness of ideological and political education in the curriculum should be constructed. We should not rush for quick results, only focus on short-term effects, and neglect the long-term tracking and evaluation mechanism for students. It should be said that the benefits lie in the present and the future.

4 Conclusion

The teaching of electronic technology courses based on "virtual simulation task driven ideological and political integration" integrates ideological and political elements into

multiple stages such as content introduction, task issuance, task guidance, evaluation and summary through reasonable teaching design. Integrate professional basic courses with ideological and political education, cultivate skilled talents with excellent professional ethics, rigorous scientific spirit, and contributions to the country, and achieve the educational goal of "cultivating virtue and nurturing talents".

Curriculum ideological and political education is a long-term project that requires the cooperation of society, schools, teachers, and students. Educators should truly shoulder the responsibility of teaching and educating people in order to promote the development of curriculum ideological and political education in an upward and positive direction.

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