



Research and Practice on the Integration of Curriculum Ideology and Politics in the Online and Offline Mixed Mode Education of Electronic Technology Courses

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Abstract. Integrating ideological and political ideas into electronic technology teaching can not only improve students' dialectical thinking ability, but also cultivate students' innovation ability and teamwork spirit. Based on the research of ideological and political education in electronic technology courses, this paper discusses the research and reform of ideological and political teaching mode in electronic technology courses from three aspects of curriculum ideological and political teaching system design, teaching implementation, evaluation and feedback through the mixed mode of online and offline, and combines knowledge imparts with ideological and political education to achieve the unity of teaching and teaching.

Keywords: Online and offline^[1]; Hybrid mode; Curriculum ideological and political design

1 Introduction

Curriculum thought and politics is an effective way to realize "whole person education and quality education". As a national strategic emerging industry, electronic information industry plays an important role in promoting economic and social development. Electronic technology course is an important basic compulsory course of electronic information specialty, which has strong practicability. Integrate ideological and political ideas into electronic technology course teaching, and combine professional knowledge, professional quality, engineering application and talent training objectives^[2]. Doing so can not only help students establish a correct world outlook, outlook on life and values, but also cultivate their innovation ability and teamwork spirit. Because the ideological and political elements of electronic technology curriculum are difficult to explore and implement, the ideological and political model of the curriculum is difficult to learn from, promote and evaluate. How to perfect the ideological and

political system of professional basic courses and better realize the same direction of curriculum and ideological and political research is still worth our further study.

1.1 Research Status at Home and Abroad

In terms of viewpoint interpretation, some scholars believe that curriculum thought and politics is the inevitable choice to exert the main channel of classroom education, and agree with its education function^[7]. From the aspects of teaching design, classroom teaching improvement and teacher quality improvement, they put forward the way to realize the classroom education function.

In terms of practical experience, some scholars have introduced the practical experience of curriculum ideology and politics from four dimensions, which are the construction of curriculum ideology and politics resource base, the creation of demonstration courses, the formulation of teaching guidelines and the training of professional curriculum ideology and politics teachers.

Compared with China, there are relatively few studies on curriculum ideology and politics in foreign countries. On the one hand, some countries have incorporated curriculum ideological and political studies into their academic curriculum system, for example, American universities also promote ideological and political studies in the curriculum to enhance students' political thought and cultural cognition. On the other hand, some national curriculum ideological and political research is still in the exploratory stage. They are also working hard to develop ideological and political courses suited to their national conditions so as to raise the political consciousness and cultural level of the people.

In summary, this paper mainly refers to the domestic ideological and political research results and mature experience for further study and research.

1.2 Necessity of Research

It can be seen that scholars have studied curriculum ideology and politics from the perspective of political sociology and pedagogy, as well as from the perspective of interpretation and implementation. However, how to integrate ideological and political theories into electronic technology courses, better improve the evaluation system, and organically combine explicit and implicit ideological and political courses is still in the exploration stage, which needs more in-depth research by educators.

Based on this, the research group put forward the topic of "Ideological and political teaching reform and practice based on electronic technology courses". Through the research and exploration of this subject, it will provide reference for the ideological and political construction of college curriculum, and will also contribute to the innovative research of vocational and technical education teaching mode.

2 Main Contents of the Study

The research group explored and practiced the ideological and political teaching of electronic technology courses under the mixed teaching mode, and constructed the ideological and political teaching mode of professional courses organically combined with "knowledge, ability and value". The specific implementation process and implementation method are put forward to provide theoretical support and practical basis for the electronic technology curriculum reform under the new situation, and provide measures and suggestions for further promoting the innovation and development of vocational and technical education.

2.1 The Basic Idea of Topic Research

This paper takes the course "Electronic Technology Application" as an example to explore and practice the course ideology and politics of electronic technology courses under the mixed teaching mode. Through consulting a large number of literature materials, the main theories of curriculum ideology and politics are clarified, the theoretical demonstration scheme is systematically designed and piloted, and the final results are formed after the effect test. The basic idea of research is shown in Figure 1:

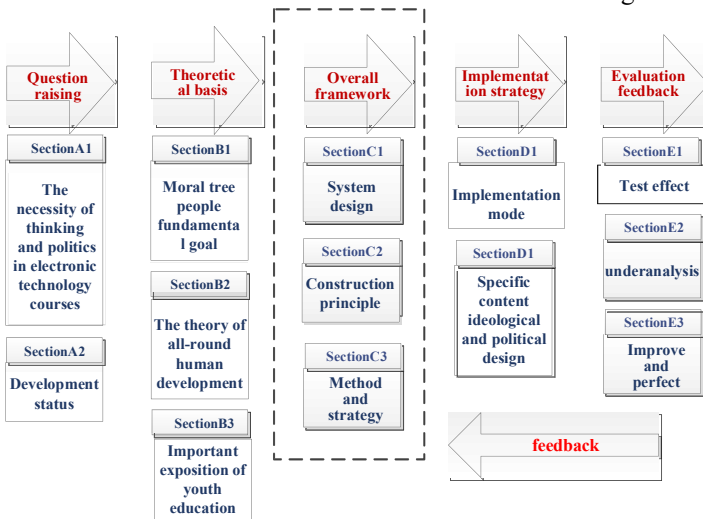


Fig. 1. Basic idea of research.

2.2 Design of Curriculum Ideological and Political Teaching System

From three aspects of curriculum ideological and political teaching system design, teaching implementation, evaluation and feedback, this paper probes into the research and reform of electronic technology curriculum ideological and political model^[5]. To realize the unity of teaching and education, we should explore ideological and political elements and integrate knowledge imparts with ideological and political education.

Revised the Implementation Plan and Improved the Ideological and Political Goals.

According to the requirements of professional personnel training objectives, combined with professional post vocational ability requirements, highlight the curriculum ideological and political education, education goals. According to the nature and characteristics of electronic technology courses, the curriculum implementation plan is revised, and the ideological and political goals of course teaching are clarified to ensure the realization of the fundamental goal of moral education.

Explore Ideological and Political Elements and Enrich Ideological and Political Resources^[6].

The course of electronic technology is characterized by the combination of functional circuit principle and practical engineering application, theory and practice, basic knowledge and basic skills, which contains rich ideological and political elements. Such as dialectical thinking, the change and development of contradictions, the relative stillness and absolute movement of things. At the same time, it is necessary to enhance cultural self-confidence, cultivate the patriotic feelings of strong science and technology, insist on not giving up, and cultivate the spirit of innovative artisans. ^[4]Fully explore its unique ideological and political elements, and the corresponding relationship between the course content and the ideological and political views formed in the corresponding teaching modules is shown in Table 1:

Table 1. part of the corresponding relationship between ideological and political points.

Module content knowledge points	Dialectical thinking point	Common element point	Ideological and political position
Circuit KVL, KCL theorem	The development of things has two sides, gain and loss, disaster and happiness, mutual cause and effect, mutual transformation.	In the circuit, the algebraic sum of voltage drop in each section of the closed loop is equal to zero; At a certain point, at a certain time, the inflow current is identical to the outflow current, and the positive and negative of this can correspond to the gain and loss of things.	The cycle of gain and loss is repeated, and is not transferred according to the will of man. Let the students establish a correct view of gains and losses, and guide them to have a positive attitude and a good attitude when facing difficulties and setbacks.
The amplification of transistors	The causes of changes in things have external and internal causes, that is, subjective	The transistor can carry out current amplification, one is to meet certain external conditions, the second is its internal	The success or failure of doing things should reasonably consider two reasons, external conditions are important, but the

	and objective, to be viewed comprehensively.	special PN junction structure. Whether it is designing a circuit, or completing a task to make a plan, in addition to the creation of the external environment, but also consider the impact of internal motivation.	internal motivation can not be ignored. Guiding students to make correct attribution, attributing to internal reasons can better build self-efficacy.
The negative feedback amplifier circuit reduces the magnification and broadens the pass band	Everything has a cost, everything has a price. Every choice carries a price tag.	The negative feedback circuit widens the pass band at the expense of magnification. This is the same as the situation encountered in actual learning and work, everything has a cost and requires effort.	Everything has a price, and these costs also build tenacity and wisdom. In order to inspire students, the star does not live up to the people on the road, the price cast brilliant.

Design Content, Develop Ideological and Political Teaching Materials.

Textbook is an important carrier of ideological and political implementation of curriculum. On the one hand, the teaching materials of vocational education based on curriculum ideology and politics should be learner-centered to realize the transfer of knowledge and skills; On the other hand, it is necessary to incorporate professional ideological and political elements into the compilation of ideological and political teaching materials with the trinity of "knowledge, ability and value"^[9].

2.3 Electronic Technology Course Ideological and Political Teaching Implementation

Adopt online and offline mixed teaching mode to carry out "curriculum ideology and politics". Students can read and watch ideological and political cases in advance according to the basic knowledge pushed by teachers. The "offline" teaching mainly tells the key and difficult points of course knowledge and organizes discussions. At the same time in the teaching process according to the teaching content into the ideological and political content designed in advance. The implementation process is shown in Figure 2.

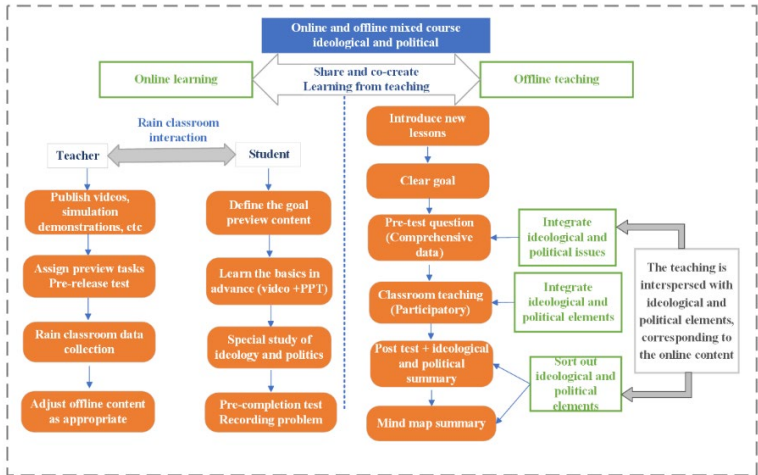


Fig. 2. Schematic diagram of mixed ideological and political teaching mode.

Specific Content Ideological and Political Design.

According to the overall design of teaching implementation, the design and implementation of specific ideas are carried out in specific chapters. For example, in the DC regulated power supply module, the ideological and political content is permeated through the organization of teaching before, during and after class. The specific process is shown in Figure 3^[3]

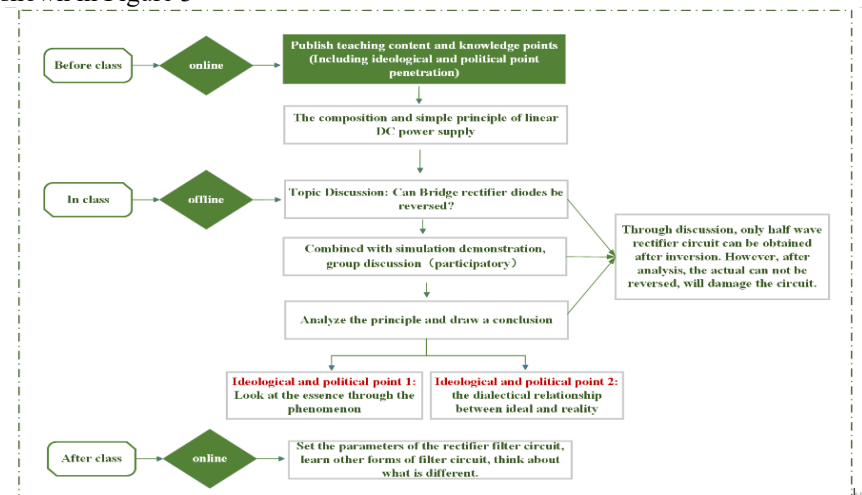


Fig. 3. Specific content design drawing.

Curriculum Ideological and Political Evaluation Mechanism.

The evaluation reflects multiple incentives, including functional testing, instrument operation, safety awareness, etc. into the evaluation system. For specific experimental

content (taking negative feedback amplifier circuit as an example), the evaluation and evaluation are carried out according to the above aspects^[8]. The specific weight distribution is shown in Table 2:

Table 2. Assessment and evaluation specific requirements and weights.

Assess- ment item	Key points of assessment		demand	weight
Functional testing evaluate	pre- power	Core device	The electrodes are correct and consistent with the schematic diagram	5%
		Bypass capacitor positive access point	Correct polarity, and ensure that AC and DC constitute negative feedback	5%
		Circuit connection	Connections are correct. As few as possible	10%
	After power- ing on	Main technical index measurement	The signal source provides the input signal, and uses the oscilloscope to monitor the waveform and measure the value.	40%
Instrument use evalua- tion	A multimeter is used to measure static working points		Dc voltage stop measurement and reading	5%
	Measured waveform		Use of AC instruments	15%
Profes- sional quality evaluate	The reasonable layout of the ground wire and the use of the wire		The instrument is common ground, the wire does not exceed 20cm, the instrument is placed neatly, and the circuit breaker is closed.	10%
Safety awareness evaluate	Live connection phenomenon, check before power on, other unsafe use of electricity		It is strictly forbidden to connect the circuit with power on. Check the group before power on and then check by the teacher	10%

Follow-up Improvement Measures.

According to the evaluation results, adjust and enrich online and offline teaching resources, add safe electricity use, instrument use tips and other content. After class, students are encouraged to participate in various activities such as propaganda competitions for patriotism and socialist core values, enrich the ideological and political education system, and incorporate the ideological and political assessment for credit replacement or recognition.

3 Conclusion

In the online up, down mixed teaching mode, into the ideological and political points. Ideological and political achievements should be added to the diversified evaluation and assessment to achieve continuous improvement of ideological and political

education in all aspects of the curriculum. The research results of this subject add new strength to promote the reform and innovation of electronic technology curriculum, and also provide a certain reference for the reform and research of vocational and technical education teaching mode.

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