Exploration of the integration of Civic Politics elements in the course of "Electronic Cognitive Practice

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Abstract. Practical courses are an integral part of the training program of undergraduate majors and occupy an important position and value in the talent training system, which has high requirements for the introduction of the course Civics. This paper takes the practical course of "Electronic Cognitive Practice" as an example, and discusses the integration of thought politics elements into practical courses from multiple perspectives, such as course reconstruction, clarification of course objectives, adjustment of teaching contents, reform of teaching methods, innovation of assessment contents and methods, and improvement of teachers' thought politics ability, so as to make the classroom teaching of practical courses organically integrated with thought politics education and thus realize the "thought politics in practical courses". This will enable the classroom teaching of the practical courses to be organically integrated with the thinking and politics education, thus realizing the "thinking and politics in the courses, and the courses integrating thinking and politics" of the practical courses.

Key words: Practical courses; curriculum thinking politics; thinking politics elements.

1. Introduction

In December 2016, General Secretary Xi Jinping attended the National Conference on Ideological and Political Work in Colleges and Universities and delivered an important speech, requesting that classroom teaching be used as the main channel, and that all kinds of courses should go in the same direction as ideological and political theory courses to form a synergy effect[1]. General Office of the State Council issued "Several Opinions on Deepening the Reform and Innovation of Ideological and Political Theory Classes in Schools in the New Era", which further clearly put forward "building a number of model colleges and universities for curriculum thinking and politics, launching a number of model courses for curriculum thinking and politics, selecting a number of famous teachers and teams for teaching curriculum thinking and politics, and building a number of model centres for teaching and research on curriculum thinking and politics in colleges and universities" [2-3]. In this context, how to implement curriculum thinking politics and scientifically answer the question of "what kind of people to train, how to train people and for whom to train people" has become the focus of attention in higher education.

In recent years, universities have conducted extensive discussions and practices on the role of "Curriculum Civics" in the system project of moral education and teaching and education of people, and have gained useful experiences. Practical teaching is an integral part of the professional training programme, and is an important link between the transformation of knowledge into skills, with its own internal structure logic and target direction, occupying an important position and value in the talent training system and playing an irreplaceable role. The course "Electronics Cognitive Practice" is a practical course, which is an introductory practical course for first-year students of information and mechanical majors in our university, highlighting "practicality" and "practicability", with a small proportion of theoretical teaching and a large proportion of practical teaching. Although the course is an introductory practical course, it also plays an important role in supporting the graduation requirements. The course aims to enable students to enhance their perceptual understanding of electronic processes through the assembly of practical electronic products, cultivate their engineering awareness, provide initial training in basic electronic application skills, improve their hands-on ability, broaden their knowledge and lay the foundation for subsequent professional courses. At present, the

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course has a relatively rigorous knowledge system, and if Civic Education is simply added to the course, it will destroy the original systemic and hierarchical nature of the course, so the only way to integrate the classroom teaching of the course with Civic Education is through multiple perspectives such as course reconstruction, clarification of course objectives, adjustment of teaching content, reform of teaching methods, innovation of assessment content and methods, and enhancement of teachers' Civic Education ability. In order to integrate the classroom teaching of the course with the education of thinking and politics, and thus realize "thinking and politics in the course, and the course integrating thinking and politics".

2. It is imperative to integrate the elements of thinking and politics into practical courses

The integration of Civic and Political Science elements into the teaching of practical courses refers to an open, three-dimensional and collaborative teaching mode that organically integrates the value-led, personality-shaping and behaviour-cultivating functions of Civic and Political Science elements with the knowledge-acquisition, ability-cultivating and quality-improving functions of practical course teaching, without changing the basic nature of the teaching system of practical courses and according to the needs of course teaching and the psychological characteristics of students' minds. This is an open, three-dimensional and collaborative teaching mode, which can better educate and lead students and promote their growth and success.

(1) The prerequisite for the integration of Civic and Political Science elements into the teaching of practical courses is that the independence and integrity of the teaching system of practical courses must be guaranteed. The teaching of practical courses is formulated in accordance with the national standards for teaching quality of professional categories and the basic requirements for doctoral degrees of first-level disciplines and professional degree categories (fields), and has independent teaching objectives, syllabus, teaching contents, credit hours, as well as a complete teaching process and teaching links. Therefore, the integration of the Civic and Political Science element into the teaching of practical courses cannot interfere with or hinder the self-consistency and systematization of the teaching of practical courses. In this regard, the integration of the ideological and political elements into the teaching of practical courses is based on the inherent needs of the teaching of practical courses, rather than the needs of ideological and political education itself.

(2) The integration of ideological and political elements into the teaching of practical courses is a kind of seamless docking and two-way integration. According to the needs of practical course teaching itself, combined with students' ideological and psychological qualities, as well as different course characteristics, thinking methods and value concepts, the objectives, contents and ways of integrating the Civic and Political Science elements into practical course teaching are organically combined, so that the Civic and Political Science elements and practical course teaching form a harmonious symbiosis and a mutually promoting whole. In this sense, the integration of Civic and Political Science elements into the teaching of practical courses is not a one-way integration, but a two-way interactive integration.

(3) The integration of Civic and Political Science elements into the teaching of practical courses is to achieve complementary functional advantages and form a synergy of nurturing people. In the actual teaching process, through the combination of online and offline, explicit education and implicit education, the two can each take advantage of each other and form a complementary advantage, pointing to the fundamental task of establishing moral education together.

(4) The integration of Civic and Political Science elements into the teaching of practical courses is a reconstruction of the teaching mode. As mentioned above, the elements of Civic and Political Science and professional practice teaching each have a relatively independent and complete system, but the integration of Civic and Political Science elements into practice course teaching breaks the logical structure of each, and requires three-dimensional and systematic integration and reconstruction in terms of objectives, contents, methods and means. This is an open, three-dimensional and collaborative teaching mode that combines multiple knowledge, multiple teaching concepts and multiple teaching methods.

3. The principle of integrating Civic and Political elements into practical courses

The integration of Civics into practical courses must make efforts in teaching design and follow different design principles in order to implement full coverage, respond to students' realistic needs and confusion, and realize the conscious cultivation of values, etc.

(1) Focusing on the integration of learning and thinking and strengthening the unity of knowledge and action Focusing on the integration of learning and thinking means focusing closely on the objectives of talent training, keeping close to the content of the teaching materials, keeping close to society, life and students, focusing on the education of core socialist values, focusing on quality education, effectively changing the concept of emphasising the transmission of knowledge over the cultivation of ability, focusing on students' learning in the classroom and thinking outside the classroom, and thus realising the integration of learning and thinking. To strengthen the unity of knowledge and action means to focus on teaching and learning according to the material, to strengthen the teaching and cultivation objectives of practical courses, to actively mobilise and integrate resources, to focus on building a long-term mechanism, and to form a synergy of practical education. This principle attaches importance to the implementation and application of innovative teaching concepts for practical courses, and is designed from the top.

(2) Realising the interconnection of the three classrooms and building an interoperable platform. The interconnection of the three classrooms means that on the basis of making full use of the main channel of education, the Civics and Political Science course, the space for extra-curricular practice is actively expanded, and the online course platform is effectively utilized, so that the organic integration of the classroom and extra-curricular, online and offline is achieved, and the educational synergy is formed through the collaborative linkage of teachers and students. Building three platforms for interoperability refers to the construction of a "trinity" of classroom, campus and social platforms. This principle focuses on the innovation of teaching platforms and teaching methods. The interconnection of the three classrooms adapts to the existing teaching conditions and breaks through the reality of the dilemma. In particular, the use of the online platform breaks the time and space constraints and is in line with the cognitive level and interests of young students in the new era, enhancing their sense of experience and access.

4. The ways of integrating the Civic and Political elements into the practical courses

Taking "Electronic Cognitive Practice" as an example, we can try to integrate the Civic and Political elements of the practical course from the following aspects.

4.1 Systematic reconstruction of the curriculum.

The integration of Civic and Political Science elements into the teaching of practical courses is not simply, isolated or rigidly implanted and grafted, but involves a systematic reconstruction of the curriculum. One is the reconfiguration of course content. Civic elements such as historical traditions, celebrities, historical stories, rituals and ceremonies, cultural and artistic activities, and cases of outstanding teachers and students in the culture of the profession or industry should be organically integrated into the syllabus and teaching contents of the practical course teaching, and distributed to different aspects of the practical teaching. At the same time, it is also necessary to actively study, develop and use local cultural resources in conjunction with the characteristics of the profession, and incorporate the Civic and Political elements of local culture into the teaching system of practical courses to form local characteristics of practical teaching and avoid homogenous development. Secondly, the reconfiguration of the curriculum system. To stand in the new era of professional orientation, ability training, quality enhancement, social service and value leadership, the practical course teaching system should be systematized and scientifically set up, including the arrangement of course hours and credits, the articulation between courses and courses, the echo between online and offline courses, etc., so as to expand and optimize the course carrier for the systematic integration of the Civic and Political Science elements.

4.2 Clarify the objectives of the course.

According to the talent training program, syllabus and curriculum standards, the overall teaching objectives of the course are to cultivate students' engineering awareness, improve their hands-on ability, broaden their knowledge, enhance their sense of responsibility and mission to learn the profession well, serve the society and people's livelihood, correct their life values and cultivate a craftsman's spirit with practice and innovation.

(1) Knowledge Transfer Objective. Knowledge transfer is the most basic teaching objective. This course is a pioneering practical course for new students of electronics technology in our school, which highlights "practicality" and "practicability". Students will learn about the general process and basic knowledge of manufacturing modern electronic products through the assembly of actual electronic products, and enhance their perceptual understanding of electronic processes. Through a combination of online and offline teaching methods, students will be able to understand the development of electronic technology and the direction of future development.

(2) Ability development objectives. Thinking ability is an inevitable requirement for the cultivation of talents in the era of knowledge explosion, students only have the ability to think, master the analysis of problems, problem solving methods, in order to be better qualified for future jobs, to solve complex problems in the work, therefore, the course's ability to train students to understand the status of the electronics industry in social and economic life through practical teaching, training students in electronic applications Therefore, the objective of the course is to enable students to understand the position of the electronics industry in social and economic life, to train their electronic application skills, to master the basic methods of circuit debugging, and to have the ability of thinking and professionalism to creatively solve complex practical problems by applying their professional knowledge.

(3) Civic education objectives. The objectives of the course are as follows: (1) to cultivate students' scientific exploration and innovative spirit, and to equip them with the comprehensive quality and ability to identify, analyse and solve problems; (2) to refine students' business style of truthfulness, meticulousness, accuracy and timeliness, and to encourage them to Develop the habit of doing any work and things from a practical point of view and respecting objective laws.

5. Adjustment of teaching content

The integration of ideological elements into the teaching content is not simply, isolated or rigidly implanted and grafted on. Like theoretical courses, the teaching process of practical courses also needs to be based on the actual needs of teaching, and the ideological elements of professional culture and local culture should be organically combined in some kind of chain structure to work together on the education objects. The professional culture is a relatively stable material culture, spiritual culture, institutional culture, professional culture and

humanistic culture that have been formed and developed in the course of the history of professional construction, and which focus on the characteristics of professional construction and personnel training. The ideological element of local culture is often rooted in local soil, telling local stories, cultivating local spirit and promoting local development. By linking professional culture and local culture, the ideological elements of professional culture are expressed in the form of local culture, while the ideological elements of local culture are transformed through professional culture. Thus, the integration of the thinking and political elements of the professional culture and the local culture is more effective and dynamic. The integration of thinking and politics elements into practical courses is also inseparable from the professional context and the local scene.

The course "Electronics Cognitive Practice" is a practical course for multiple majors, each of which has its own spiritual qualities, such as the great craftsmanship spirit of the mechanical majors, which are rich in ideological elements. (1) In the welding training phase, based on the basic requirements of the THT welding process, students are required to be proficient in THD manual welding techniques. Understanding of new industry processes and clear safety operation techniques form students' awareness of product quality, safety and environmental protection, and the basic literacy of electronic technicians. Students learn to master the use of soldering tools such as soldering irons, tweezers and diagonal pliers to complete THT process practice boards and be able to determine THD solder joints that do not meet quality requirements and use a soldering iron to repair them. Cultivate students' willpower to be patient and focused, and their craftsmanship to be rigorous and conscientious. (2) In the component measurement stage, students master the identification and reading methods of commonly used electronic components, understand the status of industry technology in social and economic life, and fully realise their sense of responsibility and mission to master science and technology to serve society, combining personal and social values. Students will master the identification and reading of commonly used electronic components, master the use of multimeters to measure common components, obtain experimental data, be able to analyse and interpret measurement data and results in a reasonable manner, judge the validity of the data, and feedback to experiments. Cultivate students' spirit of scientific exploration of rigorous search and excellence. (3) In the debugging stage of the work, students qualitatively understand the working principle of the corresponding electronic product; become familiar with the manual soldering method of applying THD devices and learn the basic debugging methods such as fault analysis and judgement, repair and processing of the circuit according to the actual situation of the circuit work in order to complete the assembly of a simple electronic product FM radio. Students will develop the basic qualities expected of modern electronic technicians and enhance their love of science and motivation to pursue truth. Students will understand the methods of measuring common circuit parameters and be able to use measuring instruments such as multimeters to obtain valid experimental data. Based on the above basic skills of testing and debugging, students will understand the limitations of using relevant measuring instruments and soldering tools. Students will develop a rigorous and down-to-earth learning spirit, linking theory to practice.

We can also organically integrate the ideological elements of professional or industry culture such as historical traditions, famous people's deeds, historical stories, ceremonies and rituals, cultural and artistic activities, and cases of outstanding teachers and students into the teaching content. For example, when teaching the information profession, we can introduce a case: people's lives are now inseparable from a variety of electronic products, the core component of electronic products is the chip, and the chip is integrated with many circuit functions of the circuit board, which brings together a variety of electronic components, so small but very powerful circuit board is how to make? Nowadays, professional learning is not independent, and the cross-fertilisation of multiple disciplines is developing. When teaching mechanical students, we can introduce the above case while presenting the history of the development of the welding process, from the traditional manual welding process to the SMT welding process. The ideological element can only be fully implemented and enforced in the classroom if it has the greatest impact on the students and develops their professionalism and moral character. Under the guidance of the syllabus and course content, more attempts are made to explore and integrate the ideological elements of the teaching content.

6. Reform of teaching methods

In terms of teaching methods, in addition to the use of simulation, animation, multimedia and other teaching methods, we must also promote the effective integration of modern technologies such as big data technology, digital technology, information technology and artificial intelligence technology, and innovate three-dimensional and dynamic, rich and diverse means of integrating the Civic and Political Science elements, such as the use of a combination of online and offline methods. In the case of the original classroom hours remain unchanged, the increase in invisible Civics content will undoubtedly affect the effective time for students' practical operations. In view of this, we make full use of Web technology and adopt a hybrid teaching approach, i.e. combining online and offline teaching, taking students as the main body and fully stimulating their subjective initiative and independent creativity, while using online teaching resources and modern information technology to assist teaching in order to achieve the best learning effect.

In terms of teaching mode, we adopt the flipped classroom teaching mode and rationalise the online and offline content. We arrange part of the background knowledge and derivative content of the course combined with Civics elements through micro-classes, catechisms and WeChat public numbers to provide classroom learning materials, extra-curricular extension materials and a platform for teachers and students to communicate, so as to realise the effective combination of pre-course pre-study and post-course summary and re-learning of practical teaching,

mobilise students' enthusiasm as the main body of learning, stimulate students to learn and think independently, and enable them to explore and In this way, students can learn, think and understand in an interactive discussion, cherish their time, be practical and put their ambitions into action. The offline teaching is based on a clear and complete practical idea, and focuses on training students in practical operations so as to achieve better educational results. In online teaching, the introduction of problem-oriented teaching methods can be used, which can effectively stimulate students' motivation and initiative in learning. At the same time, the problem-oriented teaching method encourages interdisciplinary cross-learning, which is also conducive to the integration of students' professional knowledge with their Civic Studies knowledge. In addition, as an important part of hands-on practice - offline teaching - a student team-based approach is used to enhance student participation and creativity, and a combination of student team-led and teacher-led teaching methods is implemented. The teaching method embodies a student-centred and teacher-led teaching philosophy where students can learn through self-learning and group discussions. In addition to guiding students' professional knowledge and experimental skills in all aspects of the experiment, teachers should also use teamwork, solution optimisation, data analysis and other competencies as well as the spirit of scientific research as ideological education points throughout the experimental teaching, so as to cultivate talents who meet the requirements of the new era and new engineering disciplines.

7. Innovation in assessment content and methods

How to test knowledge through the questions, but also to integrate the concept of curriculum thinking and politics into it, and to guide the transformation of teaching from "seeking marks" to "educating people", has always been a problem for the proposers of various disciplines to consider.

(1) Using the elements of curriculum thinking and politics as material to create proposition situations

Situational problems refer to real problem contexts, which are activity fields centred on problems or tasks. As a practical course, the scenario-based proposition questions of the Electronics Cognitive Practice course should be set in real situations by being close to the students' lives, so as to achieve the competence test of the practical course. Under the educational concept of curriculum thinking, the integration of thinking elements into real situations and the transformation from knowledge to task and from closed to open is an effective way to implement students' core literacy.

(2) Combining process evaluation with summative evaluation, and unifying teacher evaluation with student mutual evaluation

Combining the online and offline teaching modes, the assessment methods of the course should also be adjusted. The traditional assessment method of simply looking at practical results and reports is no longer suitable. We can promote process evaluation, combining all aspects of assessment, in order to more comprehensively evaluate students' skill level and ideological awareness. In using various assessment methods such as classroom questions, student lectures, operational examinations, written theoretical examinations, laboratory reports and thesis reports, only in all aspects of assessment, adapting to the reform of the content of the practical course and the content of thought politics, and quantifying all evaluation indicators in a scientific and reasonable manner, can we evaluate students comprehensively, objectively and fairly, thus promoting students' interest in learning and improving teachers' teaching quality. In addition, questionnaires and other surveys can be conducted on graduates and employers to form feedback on the problems of cultivating undergraduate students' knowledge, abilities and values in the practical course Civics, and to promote the continuous improvement of the practical course teaching.

In the Electronic Cognitive Practice course, teachers' evaluation of students mainly comes from students' online milestones, practical operations, test data and course reports. Due to the time constraint of the classroom, it is not possible for the teacher to pay attention to every student's operation at the same time, but only to observe some of the operations and make an overall assessment based on experience. Inevitably, such assessment is somewhat one-sided. For this reason, the results of student inter-assessment are incorporated into the overall assessment score, allowing students to reflect on and improve in their practical work. In this way, students are given a clear picture of their own shortcomings and directions for improvement, while at the same time making up for the possible shortcomings of teachers' non-comprehensive evaluation of students in practical operations.

8. Enhancement of teachers' thinking skills

The practical course has a small proportion of theoretical content and a large proportion of practical operations. As teachers of practical courses, it is sometimes inevitable that they neglect the incorporation of Civics teaching cases. Teachers are not only able to impart professional skills to students, but their ideological awareness also has a strong demonstration effect on students. Only when teachers are aware of the importance and necessity of thinking politics in the curriculum can they form the inner drive to carry out it, actively improve their own ideological and political education skills, and integrate ideological and political education into their teaching to achieve a silent effect.

Improving teachers' own ideological and political literacy is a long-term task. Teachers need to pay attention to information about their field of expertise, social development and current affairs, expand their knowledge and integrate the new ideological and political concepts they have learnt with examples of hot news into their teaching, helping students to establish the correct values, outlook on life and patriotism through professional

guidance. In addition, teamwork is a necessary quality for workers in all fields today and is one of the keys to success in a job. Teachers can also use teamwork in the construction of the curriculum, such as discussing the difficulties and problems that need to be solved in the construction of the curriculum, and carrying out teaching and research activities on the theme of "building morality and educating people". Experienced teachers can also be arranged to "pass on, help and guide" new teachers through activities such as listening to and evaluating lessons. Through learning in a team, the coordination and unity of "value leadership" and "knowledge transfer" can be achieved, thus improving the teachers' own ideological and political qualities.

The strengths of professional teachers lie in the curriculum, while the strengths of Civic Studies teachers lie in Civic Studies, so the two can be combined to create a "Civic Studies in the Curriculum" teaching team at school or college level. By establishing an effective cooperation mechanism, strengthening the communication and exchange between professional teachers and Civic Studies teachers, and promoting mutual understanding, we can better help each other in the curriculum Civic Studies and Civic Studies courses, so as to enhance the affinity and relevance of ideological and political education and meet the needs and expectations of students' growth. In addition, other courses should also go in the same direction as the ideological and political theory course to form a synergistic effect.

9. Conclusion

It is not simply a matter of adding political thinking elements to the teaching of a course, but also a matter of not neglecting the political thinking of a practical course, where students are learning practical skills while at the same time paying attention to whether or not their thinking is being sublimated. We also need to be clear that "curriculum thinking politics" can not be overstepped, not all-inclusive, not to forget the main work, not to dilute the professional, but in the course of teaching political values education into the professional education, so as to cultivate a red and professional talent.

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