



Discussion on the Ideological-political Construction of Programming Courses under the Collaborative Education Mode

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Abstract. The collaborative education model is a new type of participatory learning method that can both acquire knowledge and promote personal development during the teaching process. Under this learning approach, appropriate teaching methods and case studies are naturally integrated with ideological-political elements, allowing professional knowledge and ideological-political elements to be mutually integrated and supported. This seeks the construction method of integrating ideological-political elements into computer programming courses, achieving a good pattern of collaborative education.

Keywords: San Quan education; Moral Cultivation; Program Design Course

1 Introduction

The talent cultivation in universities should adhere to the integrate of education and personnel training, adhere to the cultivation of moral character, effectively combine professional education with moral cultivation education in the major courses, deeply ponder the elements in specialized courses, and achieve the organic integration of ideological-political education and professional education unconsciously. Since the concept of curriculum ideology and politics was proposed in 2017, the Ministry of Education has introduced a range of measures to accelerate the construction, and consolidate the development effect of curriculum ideology and politics ^[1].

After several years of construction, The construction in courses has gradually become a hot research topic, but there are still some issues in the course of curriculum education in universities, such as inadequate ideological understanding, rigid integration of elements, inappropriate combination of elements with major theoretical knowledge, incomplete evaluation system, etc. There are also problems with the formal construction of ideological-political education in courses, and the phenomenon of "two skins" between major course education and ideological-political education ^[2], This also indicates that in the course of promoting ideological-political education in the curriculum, the understanding of its concepts is still not deep enough, and the grasp of boundaries is not clear enough. This article concentrates on how to further explore the

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elements in programming courses from the perspective of ideological-political education in courses. Guided by OBE concept, how to effectively promote the implementation of moral education in courses, in order that students can transform from passive knowledge acceptance to active problem-solving, improve their moral qualities while learning theory, and provide certain references for future education and teaching [3].

2 Status and Problems

Taking our school's education as an example, all majors offer programming courses. Introducing ideological-political elements into programming courses can enhance students' programming skills on a larger scale while cultivating their good professional ethics and ideological-political level. So as investigate the current implementation of ideological-political education in our school's courses, a survey questionnaire was distributed to some majors, with 328 questionnaires distributed and 328 collected. The questionnaire consisted of 30 questions, covering the concordance of ideological-political elements into professional courses, the impact of ideological-political elements on students, the types of ideological-political elements currently integrated into specialized courses, attitudes towards the integration of ideological-political elements into professional courses, the teaching staff of specialized course teachers, the teaching effectiveness of integrating ideological-political elements into specialized courses. Some of the findings of investigation are shown in Figure 1.

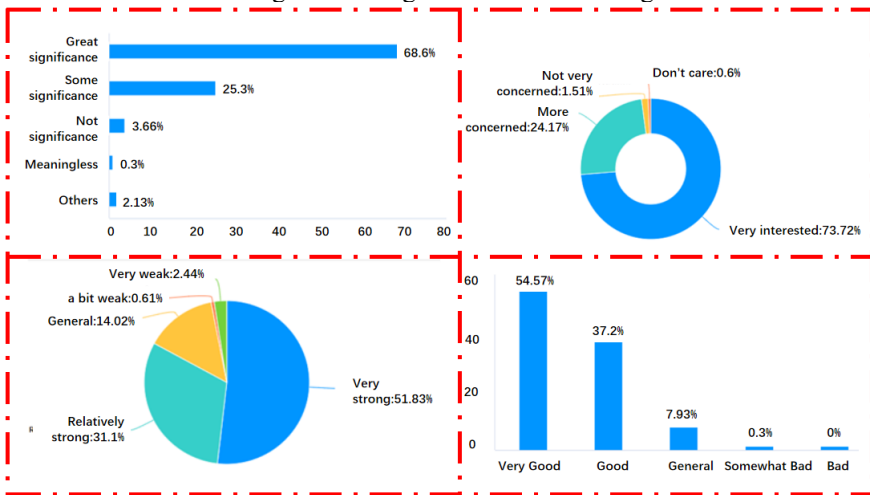


Fig. 1. Schematic diagram of the results of the questionnaire survey

In the teaching process of specialized courses, the integration of ideological-political elements that students are more likely to accept is to combine specific knowledge points or cases, interspersed with ideological-political content, accounting for 46.04%. This method integrates ideological-political elements into learning points or cases naturally and not deliberately, permitting students to receive ideological-political

education while receiving professional knowledge education. In the survey on the significance integrating ideological-political elements into major courses, it can be seen that 68.6% of students believe that the integration of ideological-political elements is of great meaning, while only 0.3% of students think that the gains are limited or meaningless. This shows that most students believe that integrating ideological-political elements into major courses is a positive attitude and has important significance for promoting the calibre of education. Sub-figure 3 implemented a survey on the ideological-political content that had the deepest impact on participants. Most students had a deep impression of the ideological-political elements integrated into their major courses, with a high proportion of them in terms of ideological and moral cultivation, legal system and law, national situation and political system, civic etiquette and social norms, professional ethics and community responsibility. Regarding the ideological-political topics integrated into professional course knowledge, 73.72% of students expressed great interest, while only 0.6% of students expressed no interest. This indicates that the majority of students are able to demonstrate a high level of interest in incorporating ideological-political elements into classroom learning. In this survey, the ideological-political abilities of the current professional course teachers in our school were evaluated, and 51.83% of students gave positive evaluations. This shows that our professional course teachers have invested a lot of energy in the selection of curriculum teaching cases and the integration of ideological-political elements, and have achieved good teaching results. In the survey on the teaching effectiveness of ideological-political courses, 54.57% of students chose "very good", indicating that most people hold a positive attitude towards the current integration of major courses and ideological-political elements in teaching effectiveness.

3 Curriculum Ideological-political Construction

3.1 Objectives of Course Ideological-political Construction

Through the education of "curriculum ideology and politics", we deepen the connotation of teaching and educating people, consciously integrate ideological-political education elements into curriculum teaching, and integrate ideological-political education throughout the entire process of education and teaching, promoting the organic unity of ideological-political education and knowledge system education. Strengthen ideological-political education and value guidance, determine the ideological-political education goals of the curriculum, fully explore the ideological-political elements in professional courses^[4-5].

3.2 Content of Course Ideological-political Construction

Through the reform of "curriculum ideology and politics" education and teaching, teachers are guided to consciously integrate ideological-political education elements into the teaching process of professional courses, and integrate ideological-political education throughout the entire process of education and teaching, promoting the organic unity of ideological-political education and professional course knowledge

system education^[6]. Strengthen ideological-political theory education and value guidance in the education process, fully explore the ideological-political education resources contained in professional courses, and deeply integrate professional knowledge with ideological-political elements. Taking "Python Language Programming" as an example, the programming courses in universities first determine the knowledge objectives, ability objectives, and quality objectives of the course, and integrate ideological-political elements into the course content to cultivate students' correct worldview, outlook on life, and values. During the teaching process, pay attention to guiding students to consciously promote socialist core values and have patriotic feelings; Be able to proficiently use the computer technology learned to effectively express ideas; Exercise teamwork skills and cultivate team spirit; Being able to consciously abide by and accept the constraints of social morality and legal norms, cultivating students' good moral qualities and legal concepts^[7].

The course of Python Language Programming contains rich ideological-political elements. During the teaching process, emphasis is placed on changing the traditional teaching mode and deeply exploring the ideological-political elements contained in the course, so that the professional knowledge of the course can be deeply integrated with the ideological-political elements. By using course teaching, students not only receive professional knowledge but also receive ideological-political education. In the process of learning, cultivate students' innovative and collaborative abilities, stimulate teacher-student interaction, and achieve the goal of "San Quan education"^[8-9].

3.2.1 Based on the Curriculum, Explore the Integration of Ideological-political Elements and Revise Teaching Documents.

In the teaching process of professional courses, teachers should consciously integrate ideological-political education elements, integrate ideological-political education throughout the entire process of education and teaching, and promote the organic unity of ideological-political education and professional course knowledge system education. Strengthen ideological-political theory education and value guidance in the education process, fully explore the ideological-political education resources contained in professional courses, and deeply integrate professional knowledge with ideological-political elements. Teachers should first conduct a thorough analysis of the nature and content of the course, formulate ideological-political objectives for the course, and based on the scientific and logical nature of the course, utilize the characteristics of the course to revise teaching documents such as syllabus, experimental syllabus, and lesson plans from the perspective of the course objectives.

3.2.2 Emphasize Collaborative Education, Improve Teaching Methods and Models.

Reform the existing teaching methods, adhere to the ideological-political orientation of the curriculum, explore the most effective and diversified teaching methods for ideological-political education in the curriculum, promote the application of modern educational technology in the curriculum teaching process and teaching resource construction, and form a transformation of the teaching mode that is student-centered and

teacher led. The reform of teaching methods and tools should serve the ideological-political goals of the curriculum, and strive to integrate ideological-political elements. In the integration of ideological-political elements, emphasis should be placed on cultivating the spirit of science and exploration and innovation. Emphasis should be placed on integrating dialectical and historical materialism into the teaching of professional courses, guiding students to enhance their awareness of harmonious survive together, clarifying their historical responsibility for the common development and progress of humanity.

In the teaching of the course, a "combination of on-line and off-line" teaching method is adopted, and online teaching is mainly completed through MOOC platforms, Rain Classroom, and other methods. Offline teaching is mainly achieved through classroom teaching, which deeply explores the ideological-political elements of the course in daily classroom teaching and integrates them into case studies and experimental cases in daily teaching. Case teaching method and task driven method are used in teaching to guide students to naturally receive the ideological-political elements contained therein while learning professional knowledge. After class time, teachers and students can interact and answer questions through discussion areas and QQ groups on the MOOC platform. Through Rain Classroom, students can check in and ask questions, and improve course management through various channels to timely understand students' learning dynamics.

3.2.3 Guided by the Principle of San Quan Education, we aim to enhance the level of Ideological-political Education in Professional Course Teaching.

The concept of "San Quan education" refers to educating all students, educating them throughout the entire process, and educating them in all aspects. The core of its work is to integrate ideological-political education into the entire process and every link of college education and teaching. In the process of educating all students, each teacher, as a student mentor, bears the responsibility of educating and guiding students' learning, work, and life. In daily teaching, emphasis should be placed on strengthening the study of political theory, and teachers should be regularly organized to learn ideological-political content through classrooms, lectures, "Study Strong Country" and other methods, and conduct targeted discussions. Guide teachers to establish a good image of being dedicated to their work and educating students. Making the construction of teacher ethics and style a routine task in the construction of the teaching staff, establishing a system for recording and investigating teacher ethics and style, formulating detailed rules for assessing teacher ethics and style, and solidly supervising the work of teacher ethics and style. Strengthen the construction of spiritual civilization, enrich the carriers of ideological-political work, and cultivate teachers' sentiments with the food of spiritual civilization. Carry out "political education, righteousness, and overall situation", enhance teachers' political awareness, organizational awareness, and overall situation consciousness, so that teachers can speak of principles and styles, dare to think about politics and have the courage to think about politics in curriculum implementation.

4 Conclusion

The computer programming course plays an important role in both professional and general education in universities, and integrating ideological-political education into this course has a wide impact. In the context of ideological-political education, programming courses should further strengthen top-level design and deepen the exploration of ideological-political elements. Enhance the literacy and ability of professional course teachers, update the evaluation system, and effectively achieve full staff education, full process education, and all-round education in the teaching process, so that professional course education and ideological-political education go in the same direction, achieve collaborative education, and cultivate talents with both morality and talent for society.

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