Thoughts on the Ideological and Political Construction of Java Courses in AI Era

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Abstract

The importance of curriculum ideological and political education is growing with each passing day, and gradually become a consensus. Courses of java are the core courses to cultivate students' professional skills. Therefore, it is particularly necessary to study its ideological and political construction. Based on the idea of the ideological and political construction of Java courses, this paper discusses the specific measures of the construction of Java courses from four aspects and summarizes the test standards of Java curriculum construction effect from five dimensions at last. These thoughts are not only the summary of the author's teaching experience for many years, but also the result of a large number of literature research. This paper provides a valuable reference for the ideological and political construction of Java courses and other professional courses.

Keywords

AI; Java; Ideological and Political Education in the Courses.

1. Introduction

On December 2016, general secretary Xi Jinping delivered an important speech at the National Conference on Ideological and political work in Colleges and universities, he pointed that: "Each course should perform its own duties, all kinds of courses should integrate ideological and political theories and promote each other."[1] On December 6, 2017, the Ministry of Education issued the "implementation outline for improving the quality of Ideological and political work in Colleges and universities", which proposed "vigorously promote the classroom teaching reform with the goal of curriculum ideological and political work" [1]. Morality education is an important part of Xi Jinping's important exposition on education, the improvement of morality education is not only conducive to promoting the modernization of education in China and building a powerful country in education, but also has decisive significance for running a satisfactory education for the people [3].

On the other hand, Java is one of the main stream development computer languages in AI era [4], courses about Java are the core courses for computer majors to cultivate professional skills [5]. Under this background, according to the characteristics of teaching objectives and teaching objects of "java programing" course, design and construct the course knowledge system based on the logic, history and application of the course, and it is particularly necessary to integrate the correct world outlook, outlook on life and scientific values into the research of teaching content.

Although there are some starting points and advantages in Ideological and political education, but there is still a lot of work need to be improved in the actual teaching[6]. One of the most important is the lack of systematic ideological and political breakthrough point. At present, some teachers will also integrate ideological and political elements into the classroom [7-9], But there exist following problems: The integration of Ideological and political education into the classroom is very random; Teaching methods are scattered, unsustainable and with no system [8-14]; Ideological and political teaching methods are single, inflexible [15-19].

2. Thoughts on the Ideological and Political Construction of Java Courses

By analyzing the characteristics of the course and combining with the ideological requirements by general secretary Xi Jinping at the National Conference on Ideological and political work in Colleges and universities, the construction of Ideological and political education in our course is completed according to the construction idea as shown in Figure 1 below.
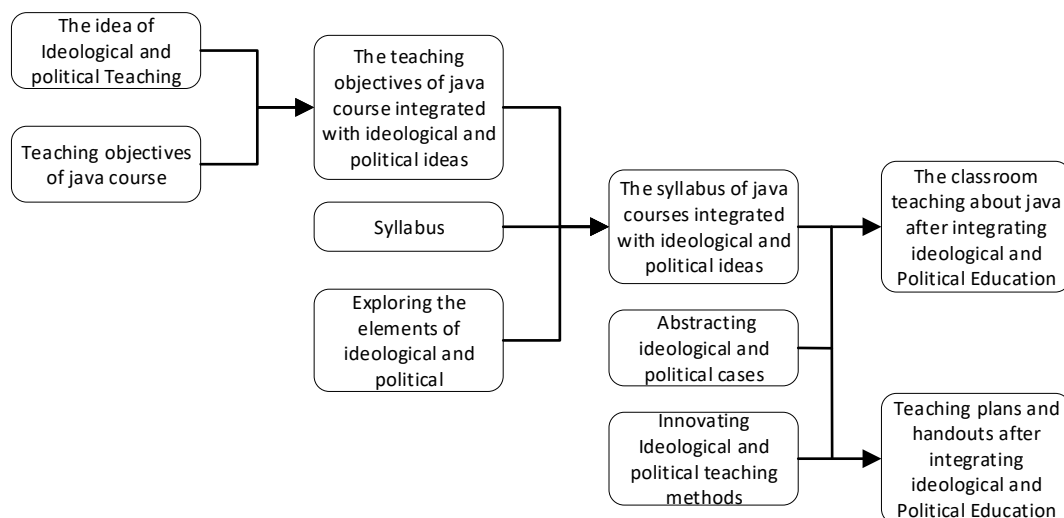

Figure 1. The idea of construction about combine courses of java and ideological and political education

As shown in Figure 1, the latest ideological and political teaching concepts will be straightened out in the course construction, then, we improved it by the teaching objectives of java course and the teaching objectives are integrated ideological and political concepts. Based on this goal, we will combine the existing Java syllabus, with exploring the ideological and political elements, integrate the teaching objectives, and write a complete set of Java curriculum syllabus which integrates ideological and political elements. After that, according to the ideological and political elements and teaching content, we refine the ideological and political cases of Java teaching, innovate the teaching methods and teaching means of Ideological and political teaching, and link the ideological and political content seamlessly into the classroom, so that students can not feel that they have carried out ideological and political education for them, so as to achieve the effect of "moistening things and making no sound".

3. Specific Measures of Curriculum Construction

3.1. Integrating Ideological and Political Ideas and Integrating Teaching Objectives

Guided by the spirit of the speech delivered by general secretary Xi Jinping at the National Conference on Ideological and political work in China, guided by the thought of socialism with Chinese characteristics in the new era. Persisting in the combination of knowledge imparting and value guidance, take the cultivation of students' all-round growth as the goal, and take morality cultivation as the fundamental task. According to the characteristics of teaching objectives and teaching objects of Java language programming course, the course knowledge system is designed and constructed with the logic, history and application of the course as the main line, and the correct world outlook, outlook on life and scientific values are integrated into the teaching content.

3.2.   Exploring the Ideological and Political Elements and Improve the Syllabus

The ideological and political education of the course should not be mere formality, empty talk and serious sermons, but need the ingenious integration of professional content and ideological and political elements. Based on the content and connection of the knowledge points in the course, we should integrate it into the ideological and political teaching, deeply explore the ideological and political elements, and improve the syllabus. For example, there can be some specific measures as follows:

(1) Combine with the current news, use what students interested to guide them to understand and identify from the heart, otherwise it will only backfire;

(2) We should try to stimulate students' patriotic enthusiasm, broaden their horizons, let them know how to apply what they have learned, and enhance the urgency and interest of learning professional knowledge from the positive and negative cases of current affairs and practical cases related to their majors;

(3) Throughout the concept of program design as a powerful proof of the modernization of science and technology into the teaching activities and Set up self-confidences of curriculum and nation

(4) We should integrate ideology and politics into the process of software requirement analysis, software function design, code writing, software debugging, program operation and maintenance involved in Java programming,students are required to have the scientific spirit of being meticulous, careful and constantly improving, and earnestly complete each small task. When encountering problems that cannot be solved, students are encouraged not to be afraid of difficulties to persevere in finding information, asking teachers or classmates, rather than giving up, so as to cultivate good qualities of patience,developing the habit of maintaining a positive attitude and optimistic living habits in real life. Through all aspects of intentional training, the spirit of persistence, preciseness, honesty, cooperation and excellence will be integrated into the daily teaching, so that students will have higher comprehensive professional quality and great Craftsman's spirit;

(5) Now the software is huge and complex, which need to be developed by the team. In the group task of practice, in addition to completing their own tasks, each student should actively help students with slow progress and poor foundation, improve the relationship between team members, be able to unite to complete group tasks, and cultivate students' team cooperation, honesty, safety in production, quality awareness, innovative ideas and other related professional qualities, to lay a good foundation for the future work;

(6) According to the characteristics of strong practicality of the course, students need encouraged to practice more, so that they can learn to experience the materialist thought of "practice is the only standard for testing truth and practice leads to true knowledge" while learning knowledge;

(7) Through the study of relevant messages, students will master the current situation of the development and output value of China's software industry, the demand for enterprise software talents, how China's famous IT enterprises are founded and how they grow rapidly, know the problems existing in the development process of China's IT enterprises, feel the pressure suffered in the international competition in order to stimulate students' enthusiasm for learning. At the same time, the patriotic enthusiasm and the sense of social responsibility should cultivate students' learning spirit of continuous improvement.

3.3.   Abstracting Ideological and Political Cases into Classroom Teaching

Integrated the ideological and political elements and teaching content deeply, abstracting the ideological and political teaching cases,and the teaching of professional content and ideological

and political education are completed by combining with cases, In order to achieve the effect of education in entertainment and subtle influence. Such as:

(1) In object-oriented programming, inheritance means that a subclass inherits all the properties and methods of the parent class, and can have its own properties and methods. Mapping the inheritance relationship in the CPC's action programs with the inheritance of one of the three characteristics of object-oriented,analyzing the inheritance relationship among people, teachers, Party members and teachers, and strengthens the ideological and political learning while clarifying the significance and implementation of inheritance in Java programming;

(2) In practice part, program design is to realize the design idea with code, In the final analysis, it is coding and debug, which means action.No accumulation of steps, can't lead to thousand miles, no integration of streams, can't result in seas and oceans. From "Hello world" to engineering software programming, we need to write code, practice and correct mistakes, It fully reflects the essential of practice in the programming course,it tells the students that there is no shortcut to become an excellent programmer, There are countless pits between novices and experts, Happiness and a bright future will not appear on their own. Success belongs to those who are brave and resolute;

(3) When explaining Java grammar, we should introduce strict grammar rules into society, country, school, class and group. Only when everyone abides by the rules and rules, can society, country and school operate normally and orderly, the class develop better, the group complete the task better, and realize the self-development of group members, reflect the sense of discipline;

(4) Program design is a means of using computer to solve practical problems and provide work efficiency. As the saying goes, "all roads lead to Rome". For the same problem, there are many ways to solve it, and then to write the code, according to different algorithms, different programming habits, specific to the code will correspond to different properties and methods, will produce different software;

When using project cases to explain the important idea of computer programming "top-down design, layer by layer decomposition, step by step refinement", students are required to deeply understand the following questions: why to decompose tasks; For a specific problem, how to decompose the task; How to use the idea of task decomposition to program. At the same time, it also thinks about how to sort out and solve a complex problem; How to use what you have learned to repay your family and society.

3.4. The Method of Innovating Ideological and Political Teaching

Classroom is the main carrier for teachers to carry out education. In the classroom teaching, we should change the traditional method of Mechanized Teaching, focus on characteristics of students' cognition, attitude and values, combined with online/offline teaching tools, taking students as the center, organically integrate the curriculum connotation and demonstration resources, pay attention to the cultivation of students' core ability, and improve students' moral and scientific literacy while imparting knowledge, Build and choose effective teaching methods, such as:

(1) The teaching method based on cases: according to the teaching objectives and contents, design the appropriate cases, add knowledge points in the cases, and design the cases close to life;

(2) The teaching method with discussing: The function of the simulation or program for real problems is mainly discussed by students, and the final function is determined by group discussion;

(3) Flipped Classroom: In case analysis, the students explain and evaluate the design procedure, and give the class to the students;

(4) The teaching method point at projects: GUI, JDBC design part of the project in accordance with the software development process, explains the design and development of desktop application process;

(5) The teaching method combine with Role playing: In the light of the needs of the actual project cases, the students are divided into groups. According to the principles of voluntariness and negotiation, the students are allowed to play various roles in the project development group, such as project manager, requirement analysis engineer, database administrator, front-end developer, back-end developer, etc., to discuss the project cases collectively, make decisions together, and divide the work for implementation;

(6) The teaching method with literature sharing: Select a topic, ask students to search for literature, conduct research, write research documents, and then share them inside and outside the classroom.

4. The Expected Test Effect of Ideological and Political Construction of Java Courses

As a computer professional course, the effect of its ideological and political construction needs to be tested. Therefore, it can be measured from the following dimensions.

(1) It is not only teaching knowledges but also cultivate students' morality. By integrating the ideological and political elements into the Java programming course, we can lead the students to form a correct outlook on life, values and the world, and realize the "inheritance and development" of knowledge teaching and values education. At the same time, enable students to master problems, solve problems, scientific thinking ability and scientific exploration spirit has been enhanced, core literacy has improved significantly. In addition, through the development of curriculum ideological and political education, we can solve the problems of "instrumental" and "one-way" talent training quality and curriculum education standard in the past professional teaching, improve teachers' education concept, and improve the effectiveness of education.

(2) Promote the change of educational idea. The formation of collaborative effect of curriculum teaching and talent cultivation has changed the concept that students only pay attention to skill learning but not to quality improvement, enhanced the teaching concept that teachers are not only teaching but also educating people, effectively stimulated students' learning spirit of independent and realistic exploration, and effectively improved students' professional skills and comprehensive quality. It enhances the sense of responsibility of teachers, realizes the goal of moral and technical education, and improves the quality of curriculum education.

(3) Improve students' way of thinking. Through the course of Ideological and political education, we should further strengthen the cultivation of students' philosophical dialectical thinking, including: unity of opposites, contradiction theory, methodology of finding, analyzing and solving problems, and thinking mode of entirety, connection and dynamics;

(4) Construct the ideological and political system of curriculum. According to the goal of Ideological and political education, the syllabus is revised, the teaching content is reconstructed according to the curriculum system, and the procedural spirit and theme activities are designed based on the teaching content.

(5) Explore a new educational model. In the Java programming course to carry out ideological and political research, especially in the teaching activities of computer related professional practice with the ideological and political course, not only provides a reference for other

courses to carry out the ideological and political course, but also promotes teachers' confidence to constantly promote moral education into professional courses.

5. Conclusion

The major construction solves "what kind of people to cultivate", while the ideological and political construction of curriculum solves "cultivate people for whom". These two issues are of decisive significance and of great importance to the success of people's satisfactory education. This paper discusses the ideas of the ideological and political construction of Java curriculum, discusses the specific measures of the Java curriculum construction from four aspects, and summarizes the test standards of the effect of Java curriculum construction from five dimensions, points out the specific direction and gives the practical operation method for the specific implementation of the ideological and political construction of Java courses. At the same time, the thinking and suggestions in this paper also provide valuable reference for the ideological and political construction of other professional courses.

Acknowledgments

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