Ideas and Cases of Ideological and Political Construction in Computer Science Courses

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Abstract: Moral education is the foundation of colleges and universities. While professional knowledge and skills are imparted, ideological and political elements should run through the curriculum throughout, which can cultivate a large number of reliable talents. This paper discusses the necessity of ideological and political construction of computer professional courses in colleges and universities, gives the education objectives and construction ideas, and puts forward specific cases of ideological and political courses, which provides reference for the construction of computer professional courses.

1. Introduction

Moral education is the foundation of colleges and universities. Many colleges have developed the ideological and political construction [1-4]. From the perspective of global and strategic height, we should effectively improve the political position and ideological understanding, attach great importance to integration of students' ideological education and professional knowledge, and infiltrate patriotism and national feelings into the course teaching. All lessons have the education function to fully mine the resources of industry and professional courses [5-8]. We combine the requirements of core values and the idea and responsibility to revitalize the Chinese nation and other courses to encourage students to consciously personal ideal pursuit into the country and people's career. The reinforcement of the belief will influence students from beginning to end.

2. Education Objectives

When we formulate the education objectives of computer majors in colleges and universities, in addition to the cultivation of professional ability, the ideological quality is also the focus of education objectives. We aim to cultivate the talents who have a strong sense of social responsibility and good moral cultivation, have good professional quality, scientific research quality, communication and teamwork ability, lifelong learning ability and employment competitiveness, and be competent for computer teaching, scientific research, design, development and integration of computer application systems and technical management. And the students also can adapt to the market economy development needs of high-level, high-quality, innovative spirit of senior

professionals.

3. Ideological and Political Construction of the Course

Respecting the law of curriculum construction and effectively strengthening the management of curriculum construction are the fundamental basis for the construction of "curriculum ideological and political". It is necessary to give full play to the advantages of professional disciplines, pay attention to fully explore the "ideological and political resources" with the characteristics of different professional courses in the process of formulating teaching objectives, and expand the teaching content in depth.

3.1. Encourage Teachers to Participate

In the ideological and political aspects of the curriculum, the current social situation and environment are closely combined [9,10]. The ideological and political teaching resources contained in the professional courses are deeply excavated in terms of teaching content and teaching methods, which are integrated into the professional teaching. The teaching content is transformed into specific, vivid and easy to understand. The education of socialist core values, good professional ethics, correct outlook on life and values is integrated into the teaching of professional knowledge, which has a subtle and silent teaching effect. In the course of ideological and political education, teachers are encouraged to actively participate in ideological and political projects and establish a series of project themes. For example:
- Build national pride
- Prepare for danger to catch up with the advanced level
- Strengthen the core competitiveness of the country
- Unity and cooperation ability training
- Innovation spirit training
- Professional ethics and academic norms training

3.2. Reform of Teaching Methods

Taking students as the main body and teachers as the leader, the method of curriculum construction is constantly improved, and the ideological and political core elements such as ideals and beliefs, professional ethics, craftsman spirit, and dedication to society are permeated into teaching. (1) Combined with the requirements of the course, usual attendance, homework, etc., students are required to start from the good faith, not to copy others' homework, not to cheat and so on, and to cultivate students' sense of integrity; (2) In the teaching process, according to the specific situation of the students are divided into groups, through team cooperation to solve problems, so that students unite with each other, help each other, form a learning atmosphere that you catch up with me to cultivate students' friendly and cooperative spirit.

3.3. Establish the Curriculum Ideological and Political Evaluation System

To establish and perfect the socialist core values as at the head of the teaching evaluation system, ideological and professional standards are hard, professional class should include professional appraisal target and the two aspects of moral education, the students' daily behaviour (whether or not to be late, whether to finish the homework as required, whether or not care about the class affairs, is a teacher, etc.) into the inspection scope. Focusing on the teaching and activities of professional talent training courses, the correct political direction, consciously implementing the

educational policy of the state, and the quality level of students' comprehensive and healthy development are regarded as the basic criteria of teaching evaluation.

3.4. Ideological and Political Education Based on Scientific Research

The university is the important base of cultivating innovative talents, and the team will strive to pay special attention to the education courses teachers team construction. We pay more attention to the curriculum reform and innovation, take the student as the main body, continuously improve the teaching content and teaching methods, stand in the forefront of scientific research, find out the breakthrough point, to help students expand the research angle of view, understand their problems existing in the development of the current technology. We help students understand the value of professional knowledge creation, and then encourage students to work hard, determined to solve the pain point problem in scientific research, and constantly promote the development of computer science and network technology.

4. Cases

The main courses of computer science are bridges to cultivate students' patriotic feelings. We list the ideological and political perspectives and starting points of some courses, as shown in Table 1.

Table 1: Ideological and political cases of main Courses

Courses	● Teaching contents	Ideological and political cases
Operation system	(1) Introduction introduces the development history of operating systems	Encourage students to learn and master the principle of operating system, determined to design operating system with independent intellectual property rights, to contribute to the country's scientific and technological development;
	(2) User Interface and job management	Guide students to imagine a more friendly and user-friendly interface
	(3) Process management, processor scheduling	Enumerating examples from life, on the one hand, makes the course more vivid, on the other hand, cultivates students' thinking and learning ability from concrete to abstract and then to concrete, so as to stimulate the spirit of love science and dedication to science.
● Internet technology and application practice	(1) Network routers, switches and other technologies	Huawei is already leading the world
	(2) Optical transmission technology and equipment manufacturing	Huawei is already leading the world
	(3) 5G mobile communication network	Huawei is already leading the world
	(4) IPV6 network	CERNET2 is the only pure IPV6 network in operation in the world.
	(5) China's CERNET2 is the only pure IPV6 network in operation in the world.	Based on our country's superior socialist system, it has a unique feature that other countries can only match.
Artificial intelligence	(1) Research frontier of artificial intelligence	The application of technology is good, but we are not innovative enough, so that students can clearly understand our shortcomings/short board and where our advantages are. Students are encouraged to learn toward the breakthrough of cutting-edge technology in our country, and strive for the future construction of the country no longer dependent on foreign technology. We can stand on our own feet, but we can't do it behind closed doors.
	(2) The future of artificial intelligence	2017 the State Council published a new generation of artificial intelligence development planning, witch stressed in the notice to seize important strategic opportunities of the development of artificial intelligence. The artificial intelligence theory, and technology of China in 2030 to overall reached world leading level, and the application to become the world's major artificial intelligence innovation centre. Students are encouraged to learn every course of intelligent science carefully, and the country needs a large number of such talents for future development.
Big data thinking and analytics	(1) Illustrate application cases of big data and intelligence revolution	It expounds the cultivation of social responsibility of the course "ideological and political" to solve social pain points. Ability cultivation includes imagination, creativity, innovation and entrepreneurship.
	(2) Privacy preserving techniques for big data and machine intelligence	The power of data and intelligence is a double-edged sword; Discuss the ethical issues raised by big data and machine intelligence.

	(3) Complexity of deliverables for smart big Data products	Reveal how to integrate elements such as value guidance and social needs into products.
	(4) Non-independent and identically distributed problem in big data	It reflects the complex relationship between data and reveals the guiding value of the theory of "community of human destiny"
Advanced programming	(1) The critical path problem in graphs	Optimizing the critical path is an effective method to speed up the project schedule and improve work efficiency. Similarly, when solving a problem, find the key to the problem; To improve themselves, we should analyse their own weaknesses or shortcomings, learn from each other's strengths and have a target.
	(2) Divide-and-conquer method	In order to achieve our goal in life, don't give up do not abandon, intermediate process need to develop a feasible plan, can use partition method, the decomposition step by step a big goal in life, until the break down into easy to do a small goal, start from the intravenous drip, feet on the ground.
	(3) Dynamic programming method	Pay attention to the summary of experience, the accumulation of knowledge, so that learning and life become simpler and more efficient.
	(4) Greedy algorithm	Students spend four years of undergraduate or three years of postgraduate campus life, everyone should be "greedy" that every day to study a little more, a little more effort, then four years of university or postgraduate three years will be fruitful results, become the best of their own. Let students realize that they should work harder at ordinary times, and cultivate students 'active learning consciousness.

5. Conclusions

In the construction of ideological and political courses for computer majors in colleges and universities, we have accumulated a lot of experience. This paper gives views and opinions from the meaning, goal and construction ideas, and puts forward the ideological and political programs of the main courses, and has achieved practical results in the practice process.

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