Exploration and Practice of Ideological and Political Construction in Computer-related Courses at Universities

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Abstract: This paper deeply explores and practices the ideological and political construction of computer-related courses at universities. It proposes strategies such as shaping college students' online concepts and innovating ideological and political education in the information age, cultivating responsible computer professionals in the new era, improving the ideological and political qualities of computer teachers, guiding network security and ethics in computer courses, and constructing a diversified evaluation system and a dynamic feedback mechanism. These strategies aim to help students grow into the pillars of the country in a healthy environment.

Keywords: Universities; Computer-related majors; Ideological and political education in courses

1. Introduction

The work plan for comprehensively promoting the construction of "Great Ideological and Political Courses" points out that since the 18th National Congress of the Communist Party of China, the status of ideological and political courses in the overall strategic situation of the Party Central Committee's governance has become increasingly prominent. The development environment and overall ecology have undergone fundamental changes. The construction of ideological and political courses, daily ideological and political work, and ideological and political education in courses have been comprehensively promoted. However, some localities and schools do not pay enough attention to the construction of "Great Ideological and Political Courses." Their awareness and ability to run ideological and political courses openly and mobilize various social resources are still weak. The curriculum and teaching material system needs to be further improved. In some schools, the number of teachers is insufficient, and their quality is not high. Insufficient attention is paid to practical teaching. The combination of classroom teaching and reality is not close enough. The integrated construction of ideological and political courses in primary, secondary, and higher education needs to be deepened. In some schools, the second classroom focuses more on activities than on guidance. There are phenomena such as "forced integration" and "superficial integration" in ideological and political education in courses [1]. This shows the importance of ideological and political education in courses. Universities should keep up with national development and follow

a path that conforms to national development. Only in this way can they better promote the comprehensive integration of computer majors and ideological and political education in courses, thus promoting the all-around development of students.

2. Significance of exploration and practice of ideological and political construction in computer-related courses at universities

By integrating ideological and political education into professional courses, teachers can transform computer-related courses from mere platforms for imparting professional knowledge and skills into important positions for shaping students' correct worldviews, life, and moral values. In this all-around and three-dimensional education model, students can be cultivated into computer professionals who not only have a solid foundation of professional knowledge but also possess noble moral sentiments and a sense of social responsibility. In the context of the new era, scientific and technological innovation has become an important engine for promoting economic and social development. However, the development of science and technology must serve the overall interests of the country and the well-being of the people, contributing wisdom and strength to the country's scientific and technological progress and innovative development. Students should establish correct ideological concepts to create a good online environment and understand that learning knowledge is for the development of the country and the progress of society [2].

3. Strategies for exploration and practice of ideological and political construction in computer-related courses at universities

3.1. Integrating computer education and ideological and political education: Cultivating responsible computer professionals in the new era

Teachers are exploring a new path that integrates professional knowledge and ideological and political education in computer science teaching, aiming to better cultivate new-era scientific and technological talents with a solid technical foundation and noble moral sentiments to better shape students' personalities [3]. When teaching the development history of operating systems in "Computer Operating Systems," teachers can not only teach the technological evolution from early batch processing systems to modern distributed systems but also emphasize the importance of values such as teamwork, continuous innovation, and user-service. They can also tell the arduous journey of China's independent research and development of operating systems (such as Galaxy Kirin and Tongxin UOS). This enables students to deeply understand that behind every technological breakthrough are the day-and-night efforts and perseverance of numerous scientific researchers and their persistent pursuit of the country's independent and controllable information security. When explaining the system resource management chapter, while introducing the philosophical discussion of "fairness and efficiency," teachers can combine it with the "equality" and "justice" in the core socialist values, encouraging students to think about how to design a highly efficient and fair depth-first algorithm under limited hardware resources. This not only improves students' technical abilities but also enhances their ethical and moral standards. When facing such problems in the future, students will learn to start from the perspective of social justice and explore technical solutions, cultivating their sense of social responsibility. After students have learned certain theoretical knowledge, teachers can design a practical project that combines ideological and political education. For example, when simulating the construction of a secure operating system experiment, teachers can require students to simulate hacker attacks and defenses. Students are required not only to implement basic system functions but also to integrate ideological

and political elements such as network security and data protection, so that they can experience the importance of network security and the responsibilities they shoulder as future IT practitioners in maintaining network security and protecting user privacy. Through theoretical knowledge and practical teaching, students not only master solid computer professional knowledge but also subtly absorb the essence of ideological and political education. They learn to examine social issues from a technical perspective and make technical decisions from a moral height, thus becoming responsible and passionate computer professionals in the new era [4].

3.2. Improving the ideological and political qualities of computer teachers to guide the cultivation of talents with both virtue and ability

In the development of computer education, computer teachers are not only disseminators of knowledge but also guides for shaping students' moral characters. They are like lighthouses, illuminating the path for students and leading them towards a higher moral realm, so as to cultivate socialist builders and successors with all-around development in morality, intelligence, physique, aesthetics, and labor [5]. The following elaborates on how to improve the ideological and political qualities of computer teachers from four aspects:

Firstly, improving professional competence and integrating ideological and political elements. Computer teachers should always maintain a love for new knowledge, constantly learn new things, and master cutting-edge technologies. They should set an example for students with their profound knowledge and broad vision. When teaching, they should infiltrate moral education content, such as the core socialist values and the socialist concept of honor and disgrace, into the curriculum content, so that students can be influenced by ideological and moral education while learning professional knowledge. For example, when introducing the development history of computers, teachers can talk about the journey of China's computers from scratch and from weakness to strength. In network security courses, they can tell real-life cases to help students understand the importance of maintaining network security, cultivating their sense of social responsibility and legal awareness, and improving their ideological and political literacy [6].

Secondly, strengthening the construction of teachers' professional ethics and setting an example. Computer teachers should learn to respect and care for students. They should not only be strict with students in their studies but also care about their lives, promoting the healthy development of students' mental and physical health. When students exhibit immoral behavior, teachers should promptly stop it and patiently guide them to help students recognize their mistakes and establish correct values. In addition, teachers should have good professional ethics, be serious and responsible in their work, and treat students fairly. They should interpret the profound connotation of "an erudite teacher is a model" with their actions, allowing students to draw positive energy from it and form positive moral qualities [7].

Thirdly, establishing correct ideological and moral consciousness and leading social trends.

Computer teachers should be strict with themselves in life and work, establish correct ideological and moral consciousness, adhere to the correct political direction, love the Party and the country, actively spread positive energy, and be brave in taking social responsibilities [8]. Only in this way can they remain clear-headed and rationally analyze complex social phenomena, avoid blindly following the trend, and not spread unauthenticated information, thus setting a good example for students. Teachers should also participate in social public welfare activities, practice the core socialist values with their actions, inject positive energy into society, and lead social trends [9].

Fourthly, strengthening self-reflection and continuously improving oneself. Computer teachers should constantly examine their words and deeds, find and correct their shortcomings. They should be brave enough to

accept students' suggestions and opinions, learn from others with an open mind, and continuously improve their ideological and political qualities and teaching abilities. They should also pay attention to social hot topics and changes of the times and adjust their teaching methods and content promptly to better meet the needs of talent cultivation in the new era and provide students with higher-quality educational services[10].

Improving the ideological and political qualities of computer teachers is a systematic project. Teachers need to continuously strive and improve in terms of professional competence, the construction of professional ethics, ideological and moral consciousness, and self-reflection. Only in this way can they become the guides for shaping students' moral characters, cultivate more computer professionals with both virtue and ability for society, and contribute to the country's scientific and technological progress and social development[11].

3.3. Integrating professional knowledge and ideological and political education: Guiding network security and ethics in computer courses

In the exploration and practice of ideological and political construction in computer-related courses at universities, professional knowledge and ideological and political education can be integrated to let students know that the development of technology and ideological and moral development are equally important. Before teaching the knowledge of "Computer Virus Protection," teachers can ask students to log in to a platform to preview professional knowledge prepared by the teacher, such as the basic concepts, development history, common types, and hazards of computer viruses, so that students can have a preliminary understanding of famous computer virus incidents in history and inspire them to think about the importance of network security and the responsibilities individuals should assume in the network space[12]. After students' self-study, they can enter the "Case Analysis" section, where they can watch characteristic cases such as the rampage of "ransomware" and the "Wanna Cry" virus, understand the background, impact, and defense measures of these viruses. Students can express their opinions on the online platform and ask questions about what they don't understand. Teachers collect students' questions and explain them in class. During the in-class learning stage, teachers first lead students to review the pre-class preview content and answer students' questions. Then, teachers can divide students into several groups of 4-5 people to discuss "how to show individuality without losing oneself in the network space." Students are required to discuss in combination with the computer virus knowledge learned in the preview. Some students may say that while pursuing individual expression, we should also enhance our network security awareness to avoid becoming part of the virus-spreading chain. Others may say that network ethics are also very important. We should respect the privacy and rights of others while enjoying the Internet. Finally, the teacher summarizes and explains the key knowledge of this class. Teachers should always integrate ideological and political education into the learning of professional knowledge, guide students to correctly understand the network environment, enhance their network security awareness, spread positive energy, and ensure that students follow network rules during network interactions[13].

3.4. Integrating ideological and political education into computer major assessments: Constructing a diversified evaluation system and a dynamic feedback mechanism

On the one hand, teachers can construct a diversified evaluation system and integrate ideological and political elements into professional knowledge. In traditional computer major teaching evaluations, emphasis is often placed on the mastery and application ability of professional knowledge such as programming skills, algorithm design, and system maintenance. However, with the continuous development of education, teachers have found that only assessing professional knowledge is far from enough. It is also necessary to examine whether students

can adhere to moral bottom lines, promote positive energy, have a high sense of social responsibility and mission in the face of complex and changeable network environments, and show correct values and moral judgments when solving practical problems. Assessment methods can include topics based on current political hotspots and discussions on network ethics to test students' understanding and mastery of ideological and political content. This can not only comprehensively reflect students' professional qualities but also evaluate the effectiveness of teachers' ideological and political education, providing strong support for ideological and political education [14].

On the other hand, teachers can establish a dynamic feedback and continuous improvement mechanism to ensure the effectiveness and pertinence of the evaluation of ideological and political construction in courses. The dynamic feedback mechanism can collect and analyze students' problems and confusions in the learning process, as well as their opinions and suggestions on the ideological and political construction of courses in a timely manner. Teachers will adjust and optimize teaching content and methods according to students' suggestions to ensure the pertinence and effectiveness of ideological and political construction in courses. Teachers can also regularly evaluate and summarize the effectiveness of ideological and political construction in courses based on students' feedback, and revise and improve the evaluation system according to the evaluation results. This helps to timely discover and solve problems in the ideological and political construction of courses, promotes the innovation and development of teaching evaluations, and provides continuous impetus for the ideological and political construction of courses. Integrating ideological and political elements into professional knowledge assessments, constructing a diversified evaluation system, and establishing a dynamic feedback and continuous improvement mechanism can not only enable teachers to comprehensively evaluate students' professional qualities and the effectiveness of their own ideological and political education but also continuously promote the in-depth development of ideological and political construction in courses [15].

4. Conclusion

In the exploration and practice of ideological and political construction in computer-related courses, teachers should recognize that the integration of professional knowledge and ideological and political education is an important way to cultivate computer professionals in the new era. Only through in-depth integration can students be guided to establish correct values, moral concepts, and a sense of responsibility, and cultivate computer professionals with both virtue and ability.

Disclosure statement

The author declares no conflict of interest.

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